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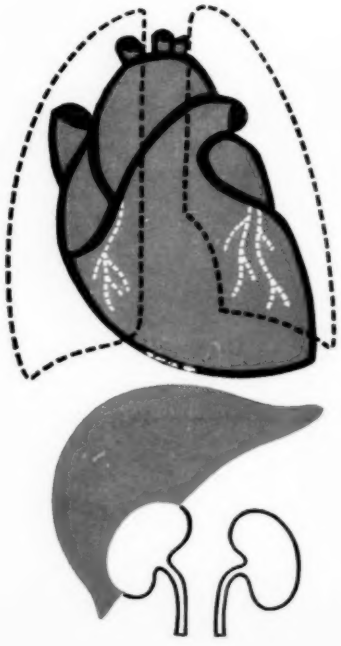

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SIDE EFFECTS OF ANESTHESIA (AND ANESTHETISTS)

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Preface

In a recent article entitled "Ministers of Death", Dr. Preston J. Burnham[1] quoted some statements from a man who gave anesthesia for only five years—the first five years of its use. These quotations form the basis for this article and are amazingly applicable to present day anesthesia.

Dr. C. R. Gilman wrote the following words in 1851.[1] I quote— "It appeared to me that in a matter with which the mind of the profession is at present so much occupied, something ought to be said . . . . I accordingly prepared an article on Anaesthetics in which, while I have tried to do justice to a class of remedies, the introduction of which into practice is, I firmly believe, a great boon to humanity, and when used in the particular department of the healing arts to which I have devoted most of my time, enables us to rob labor of half its sorrows and almost all its terrors; I have at the same time, and even with more earnest efforts, labored to impress on the minds of those as yet unfamiliar with their use, the lessons of caution and watchfulness without which I know these agents are and must be MINISTERS OF DEATH.

On the question of how far I have succeeded in this task, I feel very great solicitude; I am, I hope, ever mindful of the responsibility which attaches to one who earnestly commends to the notice and the favor of the profession a practice which has, we know, destroyed more than a score of lives, and which many believe has been fatal to a much larger number. I know that in urging upon the profession the duty, for such in certain cases I deem it, the duty of using Anaesthetics, I may be instrumental in the destruction of human life; and I desire, by the most earnest warnings, by cautions in season and out of season, to clear myself of any responsibility for fatal events, which may and must result from the careless use of these drugs. Used with constant care, watched with unceasing vigilance, they are safe and most beneficent agents; used rashly and thoughtlessly, they are so dangerous, so almost certainly fatal to life, that such use of them involves, in my judgement, an amount of moral guilt little short of that which attaches to manslaughter."

He laid down seven "Rules For Administration of Anaesthetics." These have been but little modified in the intervening 100 years.

Rule Number I—"The patient should not take food immediately before the operation."

The dangers of vomiting during anesthesia are well recognized and the presence of food in the stomach enhances that possibility. This is such a well-established premise that no further comment should be necessary. In our institution for the past five years we have insisted on a strict "nothing by mouth after midnight" routine regardless of the proposed time of surgery, and have been very pleased from all standpoints. No adverse effects of any nature have been noted from this period of starvation.

Rule Number II—"The mind should be as far as possible calm and composed."

and

Rule Number III—"Quiet around is of the utmost importance—loud talking, addressing

questions to the patient, etc., are all likely to interfere with the production of the anaesthetic state."

These two are corollaries. Premedication must be adequate without being overly depressant. It should be properly timed and individually fitted to the patient's needs. This is generally accomplished, but often its beneficial effects are nullified by the conversation, noise and "gaiety" of many modern operating rooms. Since the introduction of rapid induction with barbiturates, the latter injunction has been largely forgotten. There are still many instances in which excitement with its concomitant increase in adrenalin levels seems to be the cause for induction fatalities.

Rule Number IV—"As to how rapidly the patient should be hurried through the state of excitement there is a difference of opinion, and a different rule should prevail as the agent is ether or chloroform."

There is a difference in anesthetic agents. Although new agents have been added, they still fall into two groups. Chloroform, cyclopropane, and trichlorethylene have high oil/water coefficients. This means that these agents are capable of producing death by primary cardiac failure; that is, toxic concentrations can be obtained in the myocardium before depressant concentrations are obtained in the brain.[2] The early sensitization of the myocardium by these agents is well known. On the other hand ether, the barbiturates, ethylene, and vinethene have low oil/water coefficients. The mode of production of death with these agents is generally through secondary heart failure. The slowing of venous return is a common occurrence when anesthesia is maintained in surgical planes.

Ethyl chloride lies between these two groups, though probably most closely resembles the first group. Since respiratory arrest can be produced within one minute of the onset of the inhalation of this drug, it is difficult to distinguish whether death is a result of primary or secondary cardiac failure. Nitrous oxide lies in a field to itself. Its lack of potency makes it impossible to depress any vital centers so long as an adequate (20% minimum) amount of oxygen is given. The only mechanism of death with nitrous oxide is that produced by anoxia, which is the result of improper administration.

It is interesting to note here that anoxia or hypoxia produce the standard sequence of depression of the brain, leading to secondary cardiac failure, just as anesthetic agents do. The gradual deprivation of oxygen produces almost the same effects as those produced by the gradual administration of ether. No one has explained why anesthetics and narcotics have the selective action which they possess. The theory that this action is accomplished by interference with cellular oxidation may still prove to be correct. It then is not unreasonable to assume that a level of cellular depression may be reached with any of these agents (excluding nitrous oxide) at which it is impossible for the cell to utilize oxygen, regardless of the concentration which reaches it.

Rule Number V—"Care should be taken that the supply of atmospheric air is at all times adequate. There is little doubt but that several of the fatal cases depended on an inadequate supply of air."

If the word "air" is changed to oxygen, only one addition should be made to this the fifth and cardinal rule. Adequate ventilation also includes the removal of carbon dioxide. Hypoxia and hypercarbia are the common denominators in most anesthetic fatalities, particularly the sudden cessation of cardiac activity. If cardiac reserve is impaired, the onset of cardiac failure is further accelerated. Vago-vagal reflexes have been shown to be virtually non-existent in the absence of hypoxia, and markedly hyperactive when blood oxygen levels are lower than normal. It has also been established that changes in potassium, calcium and phosphorus blood levels occur during hypoxia and hypercarbia. The role of these changes in the production of cardiac arrest is under investigation.[3]

The most recent contribution to the effects of hypoxia and hypercarbia has been made by the group at Duke University.[4] They have shown that with a slight decrease in oxygen saturation, cerebral edema results. This is also true with the slight increase in carbon dioxide within the blood stream and tissues. When the two act together, as they most often do, the occurrence of cerebral edema is rapid and

proceeds to a point where the cerebrospinal fluid pressure may be trebled. In this manner a circumstance similar to that of cerebral concussion obtains. It is my belief that this serves to explain many of the side effects of anesthesia, particularly the occurrence of prolonged, almost intractable, nausea and vomiting.

Rule Number VI—"Watch the case from the first inhalation till consciousness and sensibility have completely returned. One person should in all operations have charge of the anesthetic, and he should think of nothing else . . . . The person who has this charge should keep his finger on the pulse every single moment of the time—not one beat should the heart give that his finger does not take note of."

If the operating room routine is such that the anesthetist is a "gown tier," "light adjuster," "circulating nurse," "order writer," and "brow wiper," then the incidence of anesthetic fatality and morbidity will not improve until he or she is permitted to pay strict attention to the patient. Attention to details in anesthesia is the factor which pays dividends. This attention should be demanded of everyone who gives anesthesia. Something that can produce instant death should never be considered as minor.

Rule Number VII—"When the patient is allowed to emerge into consciousness everything that can startle or shock should be avoided, and the brain allowed quietly to recover its equipoise. Ammonia, ... , galvanism, etc. have been proposed as remedies in excessive anaesthesia. They amount to nothing. Artificial respiration is the alpha and omega."

The last sentence, "Artificial respiration is the alpha and omega," expresses fully the basis of our technique. It is outlined as follows:

1. Premedication is that usually given.

2. The patient is induced with just enough barbiturate to obtund the eyelid reflex.

3. A drip of succinylcholine (Anectine) in a concentration of 0.2% in glucose and distilled water is begun and continued to the point of apnea.

4. Throughout the duration of surgery, artificial ventilation is maintained using a mixture of three liters of nitrous oxide and one liter of oxygen.

5. The ventilatory rate varies from 16 to 24 respirations per minute, dependent on the rate of passive expiration.

6. The succinylcholine drip is alternately slowed or increased in order to maintain apnea.

This accomplishes the following:

1. Nitrous oxide given in this proportion cannot sensitize the myocardium. It cannot depress any vital centers.[5] Thus the cardiovascular center functions in a manner quite similar to that of a conscious patient.

2. The dose of the barbiturate is usually equivalent to about three grains of pentobarbital (nembutal) and its effect is abated within fifteen minutes.

3. Succinylcholine has been shown to be devoid of side-effects, thus it produces no physiological change other than complete muscular paralysis.

4. The patient is over-ventilated. With complete relaxation, a tidal exchange in excess of the normal 500 ml. is guaranteed since the responsibility of respiration lies with an awake anesthetist.

5. Laryngospasm, coughing, bucking, and other respiratory aberrations do not occur in the paralyzed state. Should they occur the situation can be corrected promptly by speeding the drip of succinylcholine. Airway obstruction by mucus is readily remedied by suction, but without the usual coughing and straining. Vomiting is a hazard, just as with other techniques.

6. The percentage composition of the respired atmosphere approximates that of air, 25% oxygen and 75% nitrous oxide. This seems more physiological than the administration of 80-90% oxygen.

7. The level of anesthesia is constant, since the proportion of gases is not changed until the patient is ready to be allowed to awake.

8. The majority of patients are conscious within 15 to 30 minutes of the completion of surgery. This is true of craniotomies as well as other types of surgery.

9. Quietness of the operative field and muscular relaxation are excellent.

10. There is no chance of explosion, thus the Bovi electro-surgical unit or cautery can be used at any time, in any cavity.

The disadvantages are few:

1. When an endotracheal tube is not used (only 40% of these patients are intubated) the stomach can become distended with anesthetic gases. Unless the size of the stomach interferes with surgery, it is allowed to remain distended, and is usually emptied with a tremendous "burp" by the patient at the resumption of respiration.

2. About 1.0% of the patients have had apnea which persisted beyond the completion of surgery. The duration averages about 30 minutes and is of no consequence except for delaying the cases that follow. In no instance have respirations failed to return.

3. Vomiting, if it does occur, requires prompt bronchoscopy and washing of the tracheobronchial tree, to avoid the spread of hydrochloric acid into the alveoli. This is not a serious phenomena if treated immediately, and has occurred only twice in a series of 6,000 administrations. It is no more alarming than vomiting which occurs under any combination of agents.

4. One must be able to be certain that the flow of gases from the anesthetic apparatus is accurate. The concentration of nitrous oxide used will maintain unconsciousness, but if the concentration is weakened or diluted by a higher flow of oxygen, the patient may be able to repeat some of the conversation that took place during surgery.

5. The technique should not be used where one is unable to obtain an adequate venipuncture. The control of the patient depends on the introduction of succinylcholine. In doubtful cases, a cutdown makes the job much simpler.

The basis for our use of this technique is the fact that we can assure any patient, regardless of position or type of surgery, 16 to 20 "above normal" ventilatory cycles per minute. We thus have obviated the possibility of hypoxia or hypercarbia.

To the present we have used this technique on 6000 consecutive patients. We have used it in all types of surgery. With the exception of myasthenia gravis, no complicating factors (such as heart disease, hypertension, etc.) have proven to be a contraindication to its use. It is preferred in surgery of the heart.

One instance of cardiac arrest has occurred in 6000 cases. This was the result of the misuse of a gas machine, whereby no oxygen was administered for a period of 5 to 7 minutes. The cause of the patient's difficulty was sought elsewhere, and the fault was discovered only after the fatal event. No other deaths attributable to anesthesia have occurred.

By now it should be plain that I strongly believe that much of anesthetic mortality and morbidity is the result of hypoxia and hypercarbia. To further strengthen this conclusion by other means than clinical results, we have begun a series of laboratory examinations on these patients. Though not complete, the determinations of oxygen content and carbon dioxide content on arterial blood by the direct Van Slyke method have so far shown optimum oxygen saturation and a consistently lowered carbon dioxide level. Electrocardiograms have failed to show any cardiac irregularity unless surgery was being performed on the heart or unless an irregularity existed prior to surgery. Electroencephalograms show no depression of cortical function, each having been interpreted as that of an "awake patient, moderately apprehensive about what is taking place." No evidence of hypoxia has appeared in these tracings unless purposely produced.

Nausea with vomiting is an annoying and sometimes alarming post-operative event. If prolonged, it can become lethal. These factors are among those which produce nausea and vomiting.

1. Irritation of the anesthetic agent. This is exemplified by the high percentage of patients who vomit after ether administration (45-55%). The incidence after cyclopropane is 20-30% and after the barbiturates (given alone) is 15-20%.[2]

2. Dizziness or disturbed function of the semicircular canals is another factor. This is particularly dominant in children and can usually be promptly relieved by dramamine or thorazine.

3. The nature of surgery frequently produces this phenomenon. Patients having undergone hysterectomy, nephrectomy or cholecystectomy are particularly prone to vomit. This is the result of surgical manipulation and many times defies treatment, except by intra-

venous feeding and constant Levine tube suction.

4. Lastly, hypoxia and hypercarbia with cerebral edema.

It has been demonstrated that these last two factors cause cerebral edema sufficient to produce the extrusion of the brain through a craniotomy wound.[4] One or both will produce this effect. It is reasonable that this same cerebral edema would be sufficient to cause protracted emesis, similar in etiology to that seen in increased intracranial pressure from other causes. The fact that prolonged emesis (more than 24 hours) has been an extremely rare occurrence with this technique indicates that the elimination of carbon dioxide and the provision of adequate oxygen from the onset of anesthesia to its conclusion will serve to prevent cerebrally induced nausea and vomiting.

The fact that controlled respiration with other agents will not produce such a decline in this side effect, might indicate that the level to which the patient must be carried in order to maintain apnea, is a level at which cellular oxidation is impaired, or, that relaxation with these methods is not sufficient to allow the production of adequate ventilation without interfering with circulation.

The overall incidence of vomiting in this group of patients was 8.9%. This includes all patients who had emesis more than one time after reacting. It is interesting to note that 60% of these occurred in that group of patients which is so prone to have nausea and vomiting. No attempt was made to distinguish that due to opiate sensitivity, although there were many instances in which we felt that morphine was responsible.

The second complication which we no longer expect is atelectasis. The causes of atelectasis are:

1. Hypoventilation of the lungs, with a decrease in expansion.

2. A stagnant circulation which extracts nearly all of the gases from the alveoli, resulting in the collapse of these areas.

These are two factors which commonly obtain during anesthesia. If the presence of excessive secretions within the tracheobronchial tree is added to these, the occurrence of atelectasis is almost assured. Thus, atelectasis is a physical phenomenon, unrelated to the properties of the agents being administered. Its occurrence with ether is 18%, with spinal 16%, with local 18%, and with cyclopropane 12%.[2]

The low incidence of this complication in this series is attributed to the following:

1. Throughout anesthesia, the lungs are expanded fully, thus no opportunity is given for the onset of alveolar collapse.

2. The patients awake almost immediately, so do not pass through a period of respiratory depression for the first few hours after surgery is completed.

3. Circulation has not been impaired by depression of the cardio-vascular mechanisms, thus stasis within the pulmonary bed does not occur. This latter is conjecture since no measurements of pulmonary flow have been possible as yet.

4. With one exception, every case of atelectasis has occurred in patients with pre-existing "wet chest disease" who have undergone abdominal or intrathoracic surgery.

5. The relatively low, though adequate, concentration of oxygen in the respired atmosphere, gives support to the alveoli in much the same manner as does the normal nitrogen air "scaffold".

The incidence of atelectasis in these 6000 individuals was 0.5%. Ninety per cent of these were patients who had undergone chest surgery. With one exception, each of these patients had "wet" chest disease.

It is a little realized, though fairly well documented fact, that the combination of hypoxia and carbon dioxide accumulation results in the more rapid clotting of blood.[2] The etiology of pulmonary embolism is still unknown. Perhaps the slowing of circulation, with a mild hypoxia and some degree of hypercarbia, initiates the beginning of clot formation during surgery. The common occurrence of the appearance of embolism on the seventh to the tenth day coincides with the time of the separation of the embolus from the mother clot. If the clot forms during surgery this would explain why early ambulation has not appreciably reduced the incidence of this phenomenon. There have been no pulmonary

emboli in this series of 6000 cases.

In summary, I would like to repeat the admonition of Dr. Gilman as if it were my own. "I know that in urging upon the profession the duty, for such in certain cases I deem it, the duty of using Anaesthetics, I may be instrumental in the destruction of human life; and I desire, by the most earnest warnings, by cautions in season and out of season, to clear myself of any responsibility for fatal events, which may and must result from the careless use of these drugs. Used with constant care, watched with unceasing vigilance, they are safe and most beneficent agents; used rashly and thoughtlessly, they are so dangerous, so almost certainly fatal to life, that such use of them involves, in my judgement, an amount of moral guilt little short of that which attaches to manslaughter."

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TETANUS AS A PEDIATRIC PROBLEM

ANALYSIS OF 21 CASES

MARGARET Q. JENKINS, M. D. AND M. W. BEACH, M. D.

Tetanus continues to be a problem for the pediatrician in spite of widespread use of immunization procedures. Twenty-one cases of tetanus ocurring in the pediatric age group have been treated by the Pediatric Staff of the Medical College of South Carolina during the years 1948 through June 1954. A study of these cases has been made and the findings compared with other cases reported in the literature. The problem of tetanus in the newborn is quite different from that in children and therefore, these patients have been divided into two groups of 14 children and 7 newborns.

The symptoms and physical findings in tetanus are due to the muscle spasm occurring with or aggravated by stimulation of various types. Trismus, opisthotonus, "board like" spasm of abdominal muscles and tonic convulsive seizures are characteristic clinical findings and were present in the patients studied in this series. These symptoms develop when the neurotoxin produced by the tetanus bacillus becomes fixed to the anterior horn cells of the spinal cord.[1] The toxin was formerly thought to ascend along the axis cylinders of nerves to the spinal cord, but experimental work recently has definitely proved that the toxin is present in the blood and therefore, in all probability reaches the spinal cord by way of the blood stream. After the toxins become fixed to the cells of the central nervous system, they cannot be neutralized by antitoxin and the presence of toxins in these cells produces a reflex spasm of the muscles. The amount of toxin estimated to cause death is 3 mgm. in an adult and correspondingly less in a child.[3]

From the Department of Pediatrics, Medical College of South Carolina, Charleston, S. C.

Table 1

AGE DISTRIBUTION OF CASES

Age	No. cases	Age	No. cases
4 yrs.	2	9 yrs.	3
6 yrs.	1	10 yrs.	1
7 yrs.	2	11 yrs.	2
8 yrs.	1	13 yrs.	1
		14 yrs.	1

The age incidence in the 14 children with tetanus treated at Roper Hospital covers the range from 4 years to 14 years with the majority of patients being between 7 and 11 years of age. (Table 1) There were 10 males and 4 females, making a ratio of 2.5:1 of males to females. Negro children predominated in this series, there being 12 Negro and 2 white or a ratio of 6:1 which is probably about the usual ratio of Negro to white patients admitted as service patients to Roper Hospital.

Tetanus is not usually described as a seasonal disease, yet this series of cases showed a definite seasonal occurrence. It can be seen from Table 2 that all except one of the 14

cases of acute tetanus were admitted during the summer months. This is undoubtedly due to the increased outdoor activity of children during these months.

Table 2

MONTHS OF ADMISSION

January	0	July	1
February	0	August	3
March	1	Sept.	3
April	0	Oct.	0
May	2	Nov.	0
June	4	Dec.	0

Although puncture wounds are usually considered to be the type most commonly associated with tetanus, there is no typical wound which precedes the development of this disease. Anaerobic conditions or the presence of infection due to other bacteria aid the growth of the tetanus bacillus. Nine of the patients showed evidence of infection in the wound. The lower extremity was found to be the site of injury in 11 of the patients and lacerations were a slightly more common type of injury than puncture wounds in this series. (Table 3.) Multiple sites of injury were present in 2 patients, one with chronically draining otitis media and abrasion of the leg, and the other with impetigo and abrasion of the foot. No evidence of an injury could be found in one patient .

Table 3

INJURIES IN TETANUS

Site		Type	
Leg	5	Laceration	5
Foot	4	Puncture	4
Arm	2	Abrasion	3
Middle Ear	1	Contusion	1
?Impetigo	1	?Impetigo	1
Unknown	1	Otitis Media	1

The importance of the length of the incubation period as related to prognosis has been stressed.[3,7] These writers state that the prognosis is poor if symptoms occur less than 7 days after injury and more favorable if symptoms are delayed beyond 7 days after injury. There were 3 fatalities in this group of 14 patients and in all of these fatal cases the incubation period was determined to be 7 days or longer. In one of the patients who recovered the incubation period was only 6 days, but in the others, the incubation period was at least 7 days.

The severity of the disease can also be judged to some extent by the length of time over which the symptoms of tetanus develop or the time between the development of trismus and generalized tetanic spasms.[7] In 8 of the cases in this series, symptoms developed over a period of 2 days or less and in none of the fatal cases were symptoms present longer than 2 days before severe spasms occurred.

Another criterion for ascertaining the degree of severity of tetanus in an individual patient is the degree of temperature elevation. Lewis, *et al*[7] state that a rectal temperature of 100° within 24 hours of admission or 48 hours from the onset of convulsions is an indication of severe tetanus. Only one of the 14 patients in this series had a temperature of less than 100° during the first day of admission. Of those patients with a temperature elevation up to 102°, one died and 10 recovered while of those with a temperature elevation to 104° or over, 2 died and only one recovered.

The clinical findings in tetanus neonatorum are somewhat different from those in older age groups. The usual site of infection with tetanus bacillus in the neonatal period is the umbilical cord. Infections may therefore occur at the time of delivery or at any subsequent time until the umbilicus has healed. Evidence of infection of the umbilicus was found in all of the infants with tetanus neonatorum in this series. They were all of the Negro race and there was no difference in incidence according to sex. There was no seasonal incidence in the newborns with tetanus. The age of these patients and therefore probably also the incubation period, varied from 4 to 21 days. Only one of the 7 newborns was born in the hospital, the others having been delivered by midwives. The symptoms noted in these infants are listed in order of frequency in Table 4. These symptoms had been noted for a period from one to three days before admission to the hospital. An elevation of temperature over 100° was noted in all patients with tetanus neonatorum from the day of admission. However, of the 4 patients with temperature elevation to 101° or more, 2 died and 2 recovered while of those whose temperature was less than 101°, 2 died and one recovered. Therefore, it would appear from

these few cases that a temperature elevation to 101° is of less value in prognosis in tetanus neonatorum than it is in older patients.

Table 4

EARLY SYMPTOMS OF TETANUS NEONATORUM

Refusal to take feeding	5
Irritability	3
Fever	1
Lethargy	1
Opisthotonus	1
Cyanosis & Apnea	1
Convulsions	1

None of the patients in this series had received adequate immunization against tetanus. Immunity to tetanus results when a satisfactory level of antitoxin is present in the blood stream. The protective level has been determined to be about 0.01 to 0.1 unit of antitoxin per mil. of blood.[5,6] This level can be attained by passive or active immunization. Passive immunity occurs within a few hours after the injection of tetanus antitoxin and lasts for 40 to 60 days, the highest protective level being present for the first 10 days.[3] The dose of antitoxin recommended as prophylaxis against tetanus is shown in Table 5.[4]

Table 5

PROPHYLACTIC DOSE OF ANTITOXIN
(Non-immune Patient)

Day of Injury	Dose Antitoxin
(A) Minor wounds:	
Under 15 Kg. (2 yr.)	1,500 u.
15-30 Kg. (2-8)	3,000 u.
30 Kg.	5,000 u.
(B) Wound 24 Hr. old, burns, or extensive wounds,	5,000 u.

Active immunity to tetanus can be obtained by 2 or 3 injections of tetanus toxoid given at one to three month intervals, plus a "booster" injection of toxoid at the time of injury. It has been shown that a more rapid response to the booster injection occurred with the use of fluid toxoid as the "booster" after basic immunization has been attained with either alum precipitated or aluminum hydroxide—adsorbed toxoid. The rise in tetanus antitoxin to protective levels occurred within three to seven days.[5,6] Bigler[5] has shown that a booster injection of either alum precipitated or fluid toxoid given as long as 10 years after the basic immunization, without boosters in the interim, gave a satisfactory increase in tetanus antitoxin titer. He also states that the immunizing injections of toxoid given at longer intervals gave higher levels of circulating antitoxin and that repeated boosters gave a higher constant level of antitoxin.

Occasionally when treating severe wounds or wounds of several days duration in a previously immunized patient, immediate protection seems mandatory. In a study conducted by Miller, *et al*[6] in 1949, it was found that the simultaneous injection of tetanus toxoid and tetanus antitoxin in a non-immunized individual gave no rise in antitoxin titer in the blood. However, in a previously immunized patient, the simultaneous injection of tetanus antitoxin in one extremity and tetanus toxoid in another, gave a satisfactory rise in antitoxin titer in one day (due to the injected antitoxin) and a secondary rise to higher levels in 4 to 6 days (due to the response to toxoid).[6]

In analysing the treatment of tetanus, several considerations are still found to be controversial. The following therapeutic aims, as outlined by Dietrich,[6] may serve as a guide; (1) Relieve and prevent tetanic spasms; (2) Neutralize circulating toxin; (3) Prevent further absorption of toxin; (4) Supply basic body needs; (5) Refrain from causing death by ill advised treatment.

The prevention of spasms may be accomplished by two methods, the use of sedation and of muscle relaxants. Sedative drugs act by causing narcosis and thus raise the threshold for stimuli which can cause tetanic spasms. The amount of these drugs used must be that which is large enough to produce drowsiness but not large enough to cause depression of the vital centers. The margin of safety between these effects may be quite small in severe tetanus. The usual drugs used in this series of patients for sedation were the barbiturates, paraldehyde and chloral hydrate. Avertin was not used in any of these patients. Seconal, a moderately short acting barbiturate, was chosen in 13 of the 14 cases of tetanus in childhood and in 4 of the 7 cases of tetanus neonatorum because of its rapid action, rapid elimination, minimal depression of the cough and gag reflexes and a relatively late interfer-

ence with respiration. Its effect does not tend to be cumulative as is true of the longer acting barbiturates.[9] Paraldehyde and chloral hydrate were used frequently as an adjunct to sedation with barbiturates since the degree of depression of the vital centers is thought to be less with these drugs.

Muscle relaxants have been developed in recent years and should logically have a more direct effect on the muscle spasms since they act by reducing the excitability at the myoneural junction or the spinal cord level rather than at the higher centers.[10,11] Curare and D-tubocurarine in oil have been used successfully where constant observation by a physician and adequate mechanical respiratory equipment are available.[1,11,12] However, very often the amount of curare necessary to cause relaxation and the amount producing paralysis of the respiratory muscles is almost the same. Prompt and adequate institution of mechanical aids to respiration must be made. Myanesin, mephanesin (Tolserol) and other similar drugs, which act at the level of the spinal cord and basal ganglia to raise the threshold for stimulation, have been shown by Holzman[10] and Santemma, *et al*[13] to be effective in causing relaxation when given intravenously in a 2% solution. The effect was of very short duration, lasting only one to two hours. However, again the margin of safety between the effective dose and that causing respiratory paralysis was found to be small and in addition, some hemolysis of red blood cells occurred after intravenous injection and also thrombosis of the vessels at the site of injection was noted. These authors reported no significant effect from Tolserol given orally. In our patients, Tolserol was given orally to 4 patients, including 2 of the fatal cases without any apparent muscle relaxation.

The neutralization of the circulating tetanus toxin can be accomplished by the intravenous, intramuscular or subcutaneous injection of tetanus antitoxin. The intramuscular rather than intravenous route is preferred by many because there is less danger of fatal anaphylaxis from intramuscular injection and nothing to gain therapeutically by intravenous injection since the antitoxin is readily absorbed into the blood stream from the muscle.[8,11] The disappearance of antitoxin from the blood depends on metabolic processes rather than on excretion by the kidneys,[3] and since the antitoxin level has been shown to remain at therapeutic levels for at least 10 days, the repeated injection of tetanus antitoxin seems unnecessary. In addition to the intramuscular injection some of the antitoxin may be injected subcutaneously around the wound, particularly if surgical treatment to the wound is to be done.[11] However, since adequate amounts of circulating tetanus antitoxin can prevent spread of toxins from the site of infection, as is evidenced by the effectiveness of passive immunization in preventing spread of the toxins, this is probably not necessary.[2]

The total dose of tetanus antitoxin is subject to wide variation. A few physicians give as much as 1,000,000 units of antitoxin over several days but most prefer a smaller dose of 40,000 to 100,000 units as a total. Since 90% of the deaths occur in the first 10 days of the disease, and later deaths are usually due to complications, a single adequate dose of antitoxin seems preferable. A total amount of 30,000 to 60,000 units of tetanus antitoxin was used by Spaeth and found to be sufficient to neutralize the toxin circulating in the blood stream, during the critical 10 day period.[3] The patients with tetanus treated at Roper Hospital received between 50,000 and 120,000 units of tetanus antitoxin. Three of these received part of the total amount on the second and third days of admission and 2 of these were fatal cases. Only 3 patients received antitoxin around the wound in addition to the intramuscular injection. One patient with "localized" tetanus did not receive antitoxin since his condition had improved by the third day after admission when the diagnosis of tetanus was made. In tetanus neonatorum the dose of antitoxin given was 40,000 to 100,000 units in a single intramuscular dose.

Twenty-one cases of severe tetanus in which cortisone was used in addition to tetanus antitoxin as discussed have recently been reported in the literature. The rationale for using this drug was that it might tide the patient over the critical period since many patients with

tetanus die after prolonged or severe tetanospasm without other apparent cause except exhaustion. No changes have been noted on pathologic examination of the adrenals but physiochemical changes may occur. Lewis,[7] in Bombay, India and Christensen,[15] of the Mayo Clinic have used oral cortisone in patients with tetanus and found a favorable response. Five patients treated with intramuscular cortisone had a decline in fever but an increase in spasms and none recovered. However, 10 patients given cortisone orally and 5 given hydrocortisone orally showed a marked decrease in fever and muscle spasms and 8 of the 15 recovered. In these cases the spasms and fever recurred when the cortisone or hydrocortisone was decreased or stopped, and again showed marked improvement with reinstitution of the hormone therapy. The dose of cortisone used was that which was found necessary to control fever.[7] Adrenal cortical hormones were not used in any of the cases of tetanus admitted to Roper Hospital in this series. Further investigation and confirmation of these reported results are indicated, before this form of therapy can be adequately evaluated.

Table 6

MORTALITY RATES IN TETANUS

Author	# cases	Mortality
Yodh, 1931		50.6%
Pratt, 1945	56	43%
St. Louis Child Hosp. 1933-1953	47	21.3%
Binger, 1935-1948	21	65%
Segar, 1952	10	0
Roper Hosp. 1948-1954	14	21%

As previously stated, the prevention of further absorption of toxin is usually accomplished with adequate intramuscular injection of tetanus antitoxin. The local treatment given to the wound is still a matter of controversy. In children, most of the wounds causing tetanus are of minor degree, rarely need heroic surgery and may not be definitely detectable on physical examination.[8] Pratt demonstrated in laboratory animals the futility of surgical excision of the wound once the symptoms of tetanus had developed.[2] Spaeth states that "only such surgery is to be recommended as would be required if the patient did not have tetanus".[14] Since passive immunization is effective in preventing spread of tetanus toxin and the development of clinical tetanus, the initial injection of antitoxin should protect the patient for 40 to 60 days, from further elaboration of toxins in the wound.[2,3] In this series of patients,[4] since the wound was completely healed in 3 and not detectable in one, no local treatment was given these 4 patients. Of the other ten, 7 received an oxidizing agent, potassium permanganate, in the form of wet dressings to the wound, and one of these died. One fatal case had the wound excised, and of those treated with incision and drainage plus potassium permanganate soaks, one died and one recovered. All of the patients with tetanus neonatorum received local therapy to the umbilicus of potassium permanganate soaks, except one who died before antitoxin or other treatment could be given.

Supplying the basic body needs included the maintenance of nutrition and adequate nursing care. The nursing care given the patients in this series was not ideal in many respects. Special nursing to insure constant attention to the patient is of primary importance. However, adequate care of this nature was frequently not obtainable, and one of the patients was found dead by the nurse although the spasms appeared to have been controlled previously.

Oral feeding was possible in 6 patients. Gavage feeding with a tube passed into the stomach was utilized in the other 8. Five of the patients with tetanus neonatorum were tube fed, one took oral feedings before death occurred and another died before any treatment could be instituted. Constant nursing care is necessary in order to prevent fatal aspiration in these patients fed by tube and given sedatives or having frequent spasms.

Penicillin was given to all patients and 2 received streptomycin in addition. The route of administration was intramuscularly in 12 patients and orally in 2. All newborns with tetanus received intramuscular penicillin and 2 of these received streptomycin and sulfonamides in addition.

Table 7

MORTALITY RATES IN TETANUS NEONATORUM

Author	# Cases	Mortality
Hines, 1930	5,794	99.5%
Jelliffe	25	87%
Black & Foster	38	96%
Charity Hosp., New Orleans 1946-1951	26	77%
Roper Hospital, 1948-1954	7	57%

Tracheotomy was done in only one of these patients who later died. One other fatal case might have benefitted from a tracheotomy since 2 episodes of respiratory arrest occurred before the final one. Tracheotomy was not done in any of the cases of tetanus neonatorum. It is now recommended generally that tracheotomy be done earlier as an aid in preventing fatal complications, instead of waiting for cyanosis or apnea to occur and doing a tracheotomy only as a measure of desperation.

Of the 14 patients treated over the six and one-half year period, 3 died (mortality rate, 21%). Of the cases of neonatorum, 4 of the 7 died (mortality rate 57%). The mortality rates for various series reported are shown in Table 6 and 7.

SUMMARY

1. Twenty-one cases of tetanus in the pediatric age group were admitted to Roper Hospital as service patients during the years 1948 through June of 1954. Seven of these were cases of tetanus neonatorum.
2. Treatment included in most cases, one intramuscular injection of 50,000 to 100,000 units of antitoxin.
3. The cases were analyzed as to age, season, site of injury, type of wound, treatment given wound, and control of spasms.
4. The mortality rate was 21% in the cases of tetanus occurring in children from ages 1 to 14 and 57% in cases of tetanus neonatorum.

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THE GOALS OF GRADUATE TRAINING IN SURGERY

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During the last half-century, the training of surgeons in the United States has progressed from apprenticeship to a well-established pattern in most teaching hospitals. In 1889, Dr. William Stewart Halsted, introduced at Johns Hopkins Hospital a system of resident training in surgery, based to some extent on previously existing German residency schemes. This method was so successful in attaining its objectives that it has become the prototype for many similar systems of graduate training in surgery. The caliber of the men trained in Dr. Halsted's residency system was quickly recognized in many quarters, so much so that on completion of their term of hospital service, these men were in great demand to head departments of surgery in other teaching institutions. Consequently, the residency system of training spread rather rapidly over the country. Recently, Carter[1] has outlined the ramifications of the relationships between many teaching institutions and the original Halsted surgical residency. Rare indeed, at the present time, is the teaching institution which does not have at least one first, second, or third generation "Halsted man" on its surgical staff.

In 1937, the American Board of Surgery was founded with the purpose of establishing and maintaining adequate standards of performance for practicing surgeons. It soon became apparent to men contemplating training after that time that graduate training in a residency system was desirable to be successful in meeting these standards. During World War II, the late Dr. Fred W. Rankin, at that time surgical consultant to the Surgeon General of the United States Army, noting the high quality of performance of men trained in such resident systems, developed a service attitude, as a result of which, in general, the better trained man was given the more responsible surgical position in the armed forces medical echelons. At the end of the war, this emphasis on good training was continued by the Veterans' Administration. The result of these various factors has been that, in recent years, most physicians contemplating the practice of surgery as a career have embarked unhesitantingly on a course of training in one of the surgical residencies. In the past decade, the number of approved residencies in surgery has increased in a most remarkable fashion, and yet it appears that there are still more applicants than there are positions available.

It is desirable that those who are wholly or in part responsible for the supervision of men undergoing graduate training in surgery should indulge periodically in self-examination, and possibly in self-criticism, in continued efforts to make certain that the product of their training will be of the highest type. The present communication represents the effort of the author to delineate his own ideas in this regard. Some of the concepts set forth herein may be regarded as idealistic, and yet idealism is necessary in the supervision of such training. When idealism is replaced by cynicism, or even by the ultra-practical approach to various problems, then the quality of training will degenerate, the product of such training will be an inferior one, and the standards of practicing surgeons throughout the country will be lowered.

Qualifications of the Trainee

Before discussing the goals of such training, it is necessary to consider the qualifications of the man who is being trained. Obviously, such an individual must have intelligence, and yet, having survived highly selective processes of admission to college, admission to medical school, and appointment to internship, most applicants for surgical residencies will not be lacking in this endowment. The grades received by a given individual in medical school may be significant as an index of what that individual can accomplish. However, there are those who perform very poorly on examina-

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tions, but who seem to find themselves when faced with practical clinical problems. Conversely, there are those who are "book-smart", who can quote at length verbatim from a textbook, but who appear to lack the attributes necessary for the practical management of clinical cases. A normal amount of physical coordination is obviously necessary to learn the practice of surgery, but unusual dexterity is not a requirement, since in those with normal coordination, adequate manual dexterity can be developed by practice. A reasonable degree of physical stamina is a requirement since the surgical resident is subject to many drains on his physical reserve.

An essential qualification of the surgical resident is absolute dependability. In part, this may be inherent in the individual, but dependability should be developed further by insisting upon it during his time of training. A candidate for training must have considerable organizational and administrative ability. The surgeon is essentially a man of action. The problems arising from the care of a considerable number of surgical cases will require the ability to think and plan quickly, so that the greatest good can be done for the greatest number, and so that emergent situations are handled before less urgent situations. The surgical resident should have the ability to get along with people, not only in managing patients, but so that his relationships with nurses, technicians, other residents, and members of the attending staff will be harmonious. Finally, the most important requirement is that the individual concerned have a definite incentive for real training in surgery. Bowers[2] has noted that the man who really desires training per se is a rarity, but that the response to the query of the purpose of application is too frequently, "I want my Boards". The man who is not accumulating knowledge and ability solely for its own sake is of no value to a surgical service.

Objectives of Residency Training

1. Development of Operative Technique:

Obviously, one of the most important aspects of surgical training is the acquisition of the art of surgery. Technique is best taught when the individual acts first as an assistant to various well trained surgeons on numerous occasions, during which time he learns the application of the general principles of hemostasis, gentleness in the handling of tissues, the use of the finest possible ligature and suture material, ligating small bits of tissue, and asepsis. It is axiomatic that a good assistant will make a good operating surgeon. During his term as assistant, an attitude of alertness can be developed; he should learn to anticipate the movements of various surgeons, even though their techniques may vary considerably; he should be able to keep the field free from debris, discarded instruments, etc.; the good assistant will provide adequate exposure without the need for it being pointed out to him. He will keep the wound free of blood and will master the art of controlling bleeding with fine bites of the hemostat. As his experience and judgement improve, he can be allowed to do some of the simpler operative procedures himself, at first under guidance of a more experienced man, and later independently. As his period of training progresses, the scope of these operations can be increased, until the time when he becomes senior resident, at which time he should be capable of performing most of the common major surgical procedures, requiring the help of attending surgeons only when the case presents unusual difficulty.

It must be emphasized that the development of operative technique must be preceded by the development of diagnostic skill, surgical judgement, and of adequate concepts of preoperative and postoperative care. The late Dr. Harvey Cushing was quoted as saying that he would like to see a surgeon appointed who had no hands; this hyperbolic statement cannot be accepted at face value, but there are many attributes which go to make a surgeon other than manual dexterity; he who is equipped with dexterity alone is an artisan but not a surgeon.

2. Increase in Knowledge in Ancillary Fields:

A surgeon must of necessity be a good gross pathologist and a more detailed knowledge of pathology is necessary if he is to understand the disease processes which he treats. Consequently, it is desirable that the resident rotate through a pathology service for six months or a year, during which time he

handles surgical specimens and performs both gross and microscopic examinations, as well as autopsies. Training in pathology should not be thus limited, since it is quite important that the individual surgeon should follow tissue he removes to the pathology laboratory, and see microscopic sections. Unremitting efforts to obtain autopsies in every fatal case will result in illumination of clinical errors and prevent their repetition.

While the services of a competent radiologist are quite necessary to the surgeon, he must not be dependent on the written reports of the radiologist, but should see all films made on his patients. Only in this way will he be able to interpret films when emergency situations requiring such interpretations arise. In addition, frequent visits by the surgeon to the pathology laboratory and the x-ray department result in pooling of information, so that the understanding of a given case or given disease process is enhanced in all those participating.

Anatomy is the handmaiden of surgery, and the practicing surgeon must be possessed of a detailed knowledge of gross anatomy. Consequently, it is desirable that each resident during his term of service dissect at least one cadaver and that he have gross anatomical material available for study when special problems arise. Physiology and biochemistry have become increasingly more important as related to the field of clinical surgery, and facilities should be available for collateral study of physiologic and biochemical phenomena. Even more significant will be the solution of the individual physiologic and biochemical problems presented by the individual clinical patient.

3. To Regard the Patient as a Whole:

One of the greatest criticisms of specialism and super-specialism which is heard today is that the specialist is unable to see the patient as a whole individual, but regards him as "a gallbladder case", a "cataract case", or a "cancer case". There is no replacement for the complete and thorough history and complete physical examination in the evaluation of the individual patient. If, in addition to this, consideration is given to the economic, sociologic and personality problems of the individual patient, then his best interests probably will be served by the surgeon in whose care he finds himself. On the other hand, if the surgeon's attention is confined to the single specific pathologic condition for which the patient presents himself, unnecessary or unwise surgery is likely to supervene.

In this connection, every surgeon should have at least a speaking acquaintance with the common forms of systemic "medical" disease, such as heart disease, diabetes, chronic nephritis, etc. Some training in the field of internal medicine is desirable before beginning a surgical residency. Not only should the surgeon be able to recognize these conditions, but, in the absence of competent consultants, he should be able to manage them. The general surgeon also should have sufficient knowledge of the armamentaria of the sub-specialties such as orthopedics, urology, and otorhinolaryngology, so that he is able to evaluate reasonably well conditions which fall in the realm of these fields. It is obviously desirable for a surgical resident to rotate for a short period of time through these specialties to gain this knowledge. Gynecology is being divorced more and more from the field of general surgery, but it is necessary that the general surgeon learn to do a proper pelvic examination, and, if necessary, he should be able to remove a uterus. The tendency, noted in some large institutions, for the surgeon to call a gynecologist for pelvic examination, or for biopsy of a suspicious cervix uteri is perfectly absurd. A general surgeon should be well grounded in the principles of neuro-surgery, thoracic surgery and plastic surgery. Although his later efforts in these fields may be limited, he must be able to perform thoracotomy, subtemporal decompression, elevation of a depressed skull fracture, or skin grafts of various types. It is not intended that these statements mitigate against frequent consultation, but that they serve to point out that the resident surgeon's activity should begin over a broad field, which is gradually narrowed as his interests become more specialized.

4. Attention to Detail:

The great reduction of surgical mortality rates in the past 20 years can be ascribed to a number of factors. One of the most important

is the increased knowledge of and increased attention to preoperative preparation and postoperative care. To properly serve his patient, the resident surgeon should be informed of the current condition of the patient at all times. "Routines" for various categories of patients should not be allowed to supersede thoughtful individual management carried out on the basis of careful and frequent observation of the patient. Staff rounds for the members of the surgical resident staff can be exceedingly boring, but should not be so if on these rounds all members of the staff are brought up to date with regard to the status of the individual patient. It is at these rounds that the staff can plan for the care of the patient during the next 24 hours. While discussion of the clinical condition presented may be of some value to the junior members of the staff at these rounds, surgical house staff rounds should be primarily of a "business" nature. Teaching rounds, probably with the addition of members of the attending staff, can be held at other times. It is needless to say that all patients should be seen at least once daily by the resident staff, and seriously ill patients should be seen again in the morning before beginning the operative schedule. Postoperative care is unsatisfactory when responsibility is divided; responsibility in each case should rest primarily on the shoulders of the man who carried out the operation.

It is not sufficient that the resident order the nursing service to carry out various procedures; it is necessary that he check to see that these are done properly. A Levine tube passed into the esophagus is of no value in gastrointestinal decompression, and if, as occasionally happens, it is not connected correctly to the suction apparatus, the error may be a fatal one. Attention to detail is particularly important with regard to maintenance of proper fluid and electrolyte balance in patients who are unable to take nutriments by mouth. Only such laboratory work as is necessary to the care of the case should be ordered, but once ordered, it should be followed up and the result should be known to the resident staff.

5. *Records:*

As noted above, the resident surgeons should be responsible for the taking of adequate histories and physical examinations which should be recorded in an accurate, thorough, and intelligible manner. A professional man who is unable to employ the English language clearly and concisely, with proper syntax and spelling demeans the dignity of his profession. In most instances, adequate premedical education will have avoided such a contingency, but when, in the occasional case, it is obvious that the individual is unable to express himself adequately or fluently, informal instruction in the use of the English language should be regarded as part of his professional education. For the sake of completeness and to insure that adequate attention is being paid to the individual patient, as well as for the educational value of such notes to students and other physicians perusing the charts, progress notes should be written at frequent intervals, at least daily on seriously ill patients, and at least twice a week on patients whose condition does not change rapidly. Progress notes are also important when attempts are made to evaluate old records while carrying out clinical research. Operative notes should be written on the day of operation, since, when written several days later, it is quite likely that they will become "routinized", and that the surgeon will have forgotten the particularly important details of the findings or procedure in the case at hand. Again, the presence of a proper operative note on the chart is of educational value for all concerned with the case. If possible, the resident surgeon at some time in his training should be responsible for summarizing each case and preparing a report for the referring physician. Such summaries will be necessary when he enters practice, and tend to help him organize his thinking about a case. If adequate records of this sort are to be the responsibility of the resident surgeons, it is obvious that recording machines and secretarial help should be available to them to minimize the time spent in these activities.

6. *Results of Surgery:*

Library facilities should be available so that the resident can engage in an intensive study of any subject to which his interest turns at the moment. He should be familiar with the

current surgical literature so that he can anticipate the complications, difficulties, and long-term results expected following any given procedure. Reading habits should be developed so that once he is out in practice, he will continue to maintain contact with current concepts of theory and practice. The resident surgeon not only should be familiar with the results obtained elsewhere, but he should be required to attend follow-up clinics at which he may see the results of operations performed in his own institution, and particularly the results of operations which he himself has done. By participation in the activities of an out-patient department, he can also observe the results of minor surgery, and can develop a rational basis for future office practice. It is desirable that some of the work in the out-patient department should consist of new cases which require relatively rapid diagnostic evaluation. It is also desirable that the resident take part in the activity of an emergency or accident room so that he may learn at first hand the ideal practical methods for the care of the injured.

7. *Investigative:*

During his term of service, the resident in surgery should be encouraged to engage in some form of research, either clinical research, experimental research, or both. These activities may be carried out over a period of several years while he is engaged in his clinical work, but it would be more desirable if such activity could be concentrated in a year during which time he is primarily a laboratory worker who has a respite from the hurly-burly of a busy surgical service. Problems in clinical and experimental research should be carried out under the supervision and guidance of a more experienced attending surgeon, except in the occasional instance when the individual trainee shows an unusual capacity for original thinking and productive activity. It is not necessary, nor is it even likely that each resident will produce something from his research activities which will add anything of particular value to the medical literature; nor is it desirable that he become a "super-scientist" who is more familiar with the Ph of the tears or other abstruse phenomena than with the common causes of postoperative fever. More important are the disciplines resulting from these activities, such as the ability to trace through the literature the history, development, and present status of a particular problem, the learning of the scientific experimental method, the ability to separate fact from theory and fancy, and thus to think clearly with regard to a subject. During such a period spent in investigation, the resident invariably will find himself more closely related to basic science than he previously realized, and this experience will prove to be a valuable basis for many of his activities during his entire career. Moreover, the present surgical literature being indigestibly voluminous, such experience will teach the embryo surgeon to evaluate the various publications he encounters and to separate the wheat from the chaff.

8. *Teaching:*

In a well conducted surgical residency, all members of the staff should have a very definite sense of teaching obligation. Thus, the intern on a ward should confirm willingly the physical findings of the medical student assigned to his case, and should guide the student in his attempts to arrive at a diagnosis. The junior resident should guide the intern in his first faltering attempts at operative surgery, and the senior resident should guide his juniors through most of the common major operations before the latter undertake these independently. In like manner, the attending surgeon should be available for consultation, advice, and help, either at the operating table or bedside, when it becomes necessary or desirable. If such a teaching attitude, not only with regard to operative procedures, but with regard to all aspects of patient care, pervades the residency system, the value to each individual will be far greater than the results from any number of prepared formal lectures, movies, and dry clinics.

9. *Development of the Surgical Conscience:*

Recent indictments of lunatic fringes of the surgical profession with regard to the performance of "ghost surgery" and of unnecessary operations indicate that in some quarters, at least, idealism and perfectionism have been replaced in part by cynicism. Obviously, one of the most important aspects of a surgical

residency system is to develop in the individual a surgical conscience, as a result of which all other considerations are subordinated to the immediate needs of the patient under his care. With such a conscience, despite human appetites, the resident will unhesitatingly defer time off from work if necessary to complete his work properly or to see that his patients are cared for properly. Such a conscience will prevent the resident or intern from practicing "glorified pharmacy" in the out-patient department or emergency room, prescribing drugs as a therapeutic test, and only striving to arrive at a proper diagnosis after the therapeutic test has failed. Such a conscience will avoid "shotgun" antibiotic therapy for all those who have fever or obscure maladies, and therapy will be grounded more firmly on rationale. Such a conscience will require the resident to devote the most meticulous attention to the details of his surgery, however minor, and particularly to the surgery of traumatic wounds. Such a conscience will result in the development of what can be spoken of best as simple surgical judgement. A conscientious surgeon will not emerge from an ultra-radical operation with a feeling of triumph because he has been able to remove more organs or more segments of organs than anyone else, with immediate postoperative survival, unless he is convinced that such a procedure is unquestionably for the ultimate good of his patient. The surgeon who has developed judgement will not have a rigid mentality which requires that a single given procedure be done for a single given disease, regardless of the age and general condition of the patient, or of the presence of co-existing systemic disease, but will make himself adaptable so that he will consider the best interests of the individual, rather than a series of statistics. In summary, the conscientious surgeon will adopt the attitude that if he is unable to help the patient, he at least will do no harm.

10. Administrative:

The senior resident surgeon must carry the burden of the running of a large surgical service. It is his hand which must direct not only the operative efforts of his juniors, but their assigned tasks for the moment, and therefore he must possess sufficient administrative ability to see that all things necessary are carried out on the service each day. Such a task requires much mental activity, and frequently physical strain. In this connection, the senior resident surgeon must require that all members of his staff be punctual in attendance at operations, at rounds, and in appearing for other duties. Lack of punctuality will soon result in the breakdown of an efficiently running service. There is no place in a well run surgical service for the lax, the lazy, and the lethargic.

The Attending Staff

This discussion would be incomplete without some mention of the attending surgeons whose task it is to supervise the training of the resident staff. These men can urge the developing surgeons toward the objectives enumerated above by their words, but their example will be infinitely more effective in producing the results desired. The attending surgeon should always be available to the resident, insofar as possible, and his attention to the problems of the resident staff should be unflagging. Thoroughness, organized energy, administrative vigor, and the surgical conscience, as exemplified by the attending staff, will be reflected quickly in the resident staff. Harmonious and friendly relations with the resident staff should be maintained, and yet this should not prevent correction or even discipline when such proves necessary.

In the final analysis, the attending surgeon can have no greater reward than to find that the men he has trained have been so well trained that they have equalled or surpassed him in surgical endeavor.

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DIET FOR THE TUBERCULOUS PATIENT

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A brief review of the present concepts of nutrition in tuberculosis seems appropriate before presenting a dietary regimen. Malnutrition predisposes to tuberculosis. Deficiencies in ascorbic acid, vitamin A and protein are frequently prevalent in the diet of the patient prior to the onset of the disease and the blood levels of these constituents during the course of the disease are found to be low in proportion to the extent of fever and toxicity. An added deficiency of calcium is found in advanced tuberculosis.

Although the recommended allowance of ascorbic acid for normal health is approximately 75 mg per day, as much as 3 to 4 grams may be needed by the tuberculous patient to approximate normal blood levels. This amount is impossible to take in food alone, Supplementary ascorbic acid is recommended to supply the extra vitamin C needed by the tuberculous patient. Important functions of vitamin C in relation to the formation of intracellular cement, in maintaining the integrity of the cells, in the promotion of wound healing, in effecting the metabolism of protein and in the formation of hemoglobin and red blood cells are found in current literature.

In the tuberculous patient the conversion of carotene and the metabolism of vitamin A are disrupted. Although the blood level of vitamin A is not as low as that of ascorbic acid, an extra supply of vitamin A is needed.

Generally, protein metabolism in the tuberculous patient is not increased as in other febrile diseases but in acute disease the protein metabolism is increased proportionately to the increase in toxicity and fever. The protein should approximate 1.5 to 1.75 grams per kilogram of body weight.

Carbohydrates increase respiration while fats require relatively little increase in respiration. Thus the carbohydrates should be limited and easily digested fats like butter, margarine and cream should be increased to make the caloric content of the diet sufficient to maintain normal body weight. Between-meal nourishments, except at bedtime, depress the appetite for the essential foods served at mealtime. An interval of 12 or 14 hours occurs between the evening meal and breakfast and a bedtime nourishment is a means of supplying more nourishment to the diet.

A diet that meets the requirements of adequate nutrition with increased ascorbic acid, vitamin A and protein will meet the needs of the tuberculous patient. The following foods should be included daily: 1 quart of milk, 2 eggs, 2 servings of lean meat, chicken or fish, 2 or more servings of citrus fruit or other foods high in ascorbic acid, two or more servings of green leafy or yellow vegetables, 3 to 6 servings of cereal or bread or both, butter, margarine and other fats as needed. The following menu pattern meets this standard and furnishes approximately 2850 calories; 110 grams protein, 17,600 international units vitamin A, 200 mg ascorbic acid. Approximately 80% of the vitamin A is from vegetable sources, or in the form of carotene.

MEAL PATTERN

	Sample Menu:
Breakfast:	
Fruit (High in ascorbic acid)	Grapefruit, ½ med.
Cereal, sugar, 1 tsp.	Oatmeal, ½ cup
Eggs	2 scrambled eggs
Bread	1 slice toast
Butter	1 pat butter
Milk, (also coffee or tea if desired)	8 oz. milk
Dinner:	
Lean meat	Roast chicken, gravy
Potato or substitute	Baked potato
Leafy green or yellow vegetable	Turnip greens
Bread	Cornbread, 1 muffin
Butter	1 pat or 2 tsp.
Milk	8 oz. milk
Dessert	Baked apple
Supper:	
(Approximately the same pattern as at noon)	
Lean meat	Broiled hamburger
Potato or substitute	Potato salad
Vegetable	String beans
Salad or raw vegetable	Sliced tomatoes

Bread	Hamburger roll, 1	Bedtime Nourishment:	
Butter	1 pat butter	Sandwich, 1	Peanut butter sandwich
Milk	8 oz. milk	Milk	8 oz. milk
Dessert	Peach cobbler	Citrus fruit	Orange or orange juice

New "March of Medicine" Series Slated

The "March of Medicine" television program once again will bring to the American people the latest reports of medical progress across the nation. The first program in the spring 1955 series will be carried over the National Broadcasting Company's television network on Sunday, February 26. Other programs will report on activities at various national medical meetings—culminating in coverage of the American Medical Association's Annual Meeting in Atlantic City during the week of June 6-10.

The tentative schedule calls for programs during the weeks of March 28, April 26 and June 6. Plans also are under way by the sponsors—Smith, Kline & French Laboratories and AMA—to present a three-program series in the fall.

Further details will be announced later. Watch your local newspapers for time and station of the shows in your area.

Reinsurance

The stated purpose of the reinsurance proposal is to "encourage and stimulate private initiative in making good and comprehensive health services generally accessible on reasonable terms." While in complete agreement with that objective, the A.M.A. opposed the reinsurance bills for these reasons:

1. *The mechanism* suggested would not accomplish the stated purposes of the bills.

2. *The phenomenal progress of the health insurance industry* makes federal intervention not only unnecessary but a dangerous intrusion into a successful area of private enterprise.

3. *"Reinsurance" would not make health insurance more attractive* to persons who can afford to pay premiums and have not done so. It would not make health insurance available to the indigent unless the government provides a subsidy for the purpose of selling insurance at less than the cost of servicing the contract.

4. *The program, without subsidy,* would not make health insurance available to any additional groups or geographic areas that voluntary insurers cannot reach.

5. *Most insurance authorities agree* that the extent of health insurance liability is such that a federal reinsurance program is absolutely unnecessary.

6. *The bills would give the Secretary* of the Department of Health, Education and Welfare an extensive but unjustified regulatory control over the nation's health insurance industry.

FDA SETS UP PROCEDURE FOR REMOVING RX LEGEND: Food and Drug Administration has set up a standardized procedure for removing prescription requirements from certain drugs and placing them in the over-the-counter category. Under the Durham-Humphrey law, drugs may not carry the legend ("Caution: Federal law prohibits dispensing without prescription.") while at the same time carrying directions for use by the general public. Until now the procedure for effecting the change has not been formalized, although a number of prescription drugs have been made available to the public. Under the new procedure, the change may be initiated by the FDA commissioner on his own decision, or on the filing of a petition by an interested party. Next step is publication in the Federal Register, with a request for comments. The commissioner may call a public hearing before putting the change into effect. FDA emphasized that comments from the medical profession as to the safety of a drug for lay use will be welcomed in every case where the commissioner proposes to replace the legend with directions for use.

Editorials

NEON NUISANCE

The crashing of automobiles and the mashing of humans goes on at a right hearty rate. Apparently the public is not too much impressed with the importance of trying to reduce the slaughter and the damage.

It might seem that at least some small effort should be made to avoid new hazards, such as those created by the use of bright and confusing lights at intersections. Every little establishment along the way has a glaring neon sign which readily obscures the traffic signals; and filling stations seem to be especially egregious in setting up floodlights which should illuminate their dubiously lovely architecture, but frequently succeed in blinding the approaching driver.

Perhaps our ophthalmologists might have some pertinent suggestions to offer to the people interested officially in safety on the highways. Unfortunately, without strong support, the accomplishment of beneficial changes might well bog down in the mire of petty local politics.

KREBIOZEN RESURRECTED

Some years ago there appeared on the medical horizon a secret cancer cure, one which had been developed in South America by Durovic, a Jugoslavian. It became the cause of much controversy, involving several prominent people in this country and was at one time the subject of a special investigation by the Illinois legislature, no less. Long before this investigation, the American Medical Association had gathered extensive scientific evidence to show the sensational cures claimed for krebiozen could not be substantiated. Studies were carried out in seven of the leading centers in America for the study of cancer. The American Cancer Society, the National Research Council, and a committee from the University of Illinois Medical School faculty all supported the position of the A. M. A. that krebiozen was worthless. Under the weight of such impartial findings krebiozen should have been sunk deep into the limbo of forgotten disappointments.

Now a new book on the subject is being distributed widely to newspapers and magazines. It calls itself sensational, and it is, even if the sensation proves to be a glut of misinformation and unsound evidence. There are no new data to uphold krebiozen and the book is obviously an attempt to capitalize on public interest in anything concerning cancer.

No proper medical man is seriously unsettled by the appearance of this kind of book, but he is disturbed by the uncritical way in which the book is accepted and the case for krebiozen expounded. So eminent a newspaper as the Columbia *State* published on January 4, 1955 an editorial on "The Krebiozen Case", in which it seems that the views of the publishers of the book were accepted without question or investigation to the effect that "medical bureaucracy" had waged a "campaign of opposition without scientific testing" of the touted cure. The editorial accepted a derogatory rumor (even if it was the statement of an Argentine commodore) that a high official of the American Medical Association had sought to control the drug for profit. Then it wound up in a somewhat less than original suggestion that reputable agencies should investigate the merits of the cure.

Medical men cannot conceive of any tolerable action of the sort ascribed to the AMA official, nor can they think that the many agencies profoundly interested in a cure for cancer would fail to put to the test any claim which was even remotely promising. To find an influential newspaper resurrecting a dead issue, imputing the lowest motives to a prominent (unnamed) physician, and implying the existence of a superior and negligent attitude in organizations which are operated on the highest level, makes one shiver at the thought of the suspicious and hostile attitude toward medicine which seems to prevail in this editorial. Granting that *The State* later published an interview with the president-elect of the AMA. and a letter from one of the

Board of Directors of the American Cancer Society, there was still, despite these rebuttals, much possible harm left in the minds of the readers.

Let us hope that this incident was a thoughtless and not a malicious one. Medicine needs no new enemies and perhaps more scientifically critical friends.

ADVERTISE OR BUST

Manufacturers of drugs must sell their products to stay in business. Apparently legitimate advertisement pays well, or it would not survive so bountifully. To such material there is no objection, but some of the less direct methods are a little disturbing.

The recent cause of annoyance is a half page "story" in one of the prominent newspapers of the state. The story, without date line, identification of author, or indication that it is an advertisement, expounds at length our present knowledge and deficiency of knowledge of the common cold. There is even a caricature of a cold sufferer. The reader would assume that the article is an authentic news release, condoned, if not sponsored, by the paper.

The story takes ample notice of the research activities of a certain large pharmaceutical company in developing a "unique nasal decongestant" and devotes some time to expounding the virtues of a new "nosedrop", but does not mention that it is very nearly identical with another well known "nosedrop" and has apparently similar qualities of which some have been questioned.

This is no quarrel with the product, which is probably a very good one of its kind. It is a complaint about a somewhat underhanded way of reaching the public eye. It would be better for the company to be completely commercial and advertise alongside of Vick's Vapo-Rub, Hadacol, and the like.

TO THE SEVENTY FIFTH GENERAL ASSEMBLY OF TENNESSEE

(Extract from Report of Committee on Unauthorized Practice of the Healing Arts in the State of Tennessee.)

The report, indictments, and other information herein referred to, reflect the following:

(1) Licenses were issued to wholly unqualified individuals not meeting the educational requirements of the law.

(2) Licenses were sold or issued as a result of payment of large sums of money either to members of the profession or to various members of the State Board.

(3) Licenses were issued and predated subsequent to February 17, 1945, so as to appear to have been issued prior to the passage of the amendment to the Basic Science Act including practitioners of Naturopathy under its provisions.

(4) Forged or fraudulent licenses were obtained by individual practitioners of Naturopathy through cooperation of the Tennessee Board of Naturopathic Examiners or various other healing art boards of other states and even a Province in Canada, as well as an attempt to do so from the Republic of Mexico.

(5) A large sum of money was spent to procure the passage of the 1943 Act relative to Naturopathy, and members of the American Naturopathic Association of Tennessee, Inc., were assessed legislative fees which they paid for this purpose, the amount of which funds are undetermined and unaccounted for, but which run into the thousands of dollars and are substantial amounts.

(6) A letter was sent out by the American Naturopathic Association of Tennessee, Inc., almost immediately after the passage of the 1943 Act, seeking to raise money and secure memberships in said Corporation in a manner so that said members might be issued a license without the benefit of an examination.

(7) Individuals were licensed by the Tennessee State Board of Naturopathy to practice in most every state of the Union and in foreign countries.

(8) Although the Board was required, under the 1943 Act, to submit a report in June of each year to the Governor, it failed to do so as required by law and after the Governor had, on more than one occasion, called attention to the Board of its failure in this respect, the Board only submitted a list of 188 names of individuals who had been licensed when, as a matter of fact, the Board had licensed well over 900 individuals but its rec-

ords are in such shape that an accurate check cannot be made to determine just how many or to whom licenses have been issued.

(9) A large sum of money was raised and spent to secure the passage of the 1943 Act through the Tennessee Legislature.

(10) That the majority of the original Board had a license form printed, or engraved, so as to exclude the name or signature of the other Board members; that they held meetings not in accordance with the law and without the knowledge of all members of the Board and that the third member of the original Board resigned because the law was not being complied with.

(11) That at least 9 public welfare corporations and private corporations were chartered by Naturopaths to issue diplomas and in various ways qualify individuals so that they might became Naturopathic physicians without complying with the law, and that these institutions were so conducted as to raise large sums of money for the personal benefit of the interested individuals and furnish a cover for prospective applicants for Naturopathic licenses, indicating that they were qualified applicants educationally when, as a matter of fact, such applicants were not qualified and had not complied with the law.

(12) That the State Board of Naturopathic Examiners did not remit all the funds to the State Treasury or to the credit of the State as required by law.

(13) That the members of the State Board of Naturopathic Examiners and a large group of the licentiates, who were licensed by the said Board, together with the American Naturopathic Association of Tennessee, Inc., entered into a conspiracy as follows:

a. To violate Chapter 49 of the Public Acts of 1943, and amendments thereto, same being an act to regulate and permit the practice of Naturopathy in Tennessee and to license Naturopathic physicians.

b. To violate Chapter 92 of the Public Acts of 1943 and amendments thereto, same being an act to create a Board of Examiners in the basic sciences.

c. To adminster Chapter 49 and Chapter 92, above mentioned, "corruptly, dishonestly, fraudulently and immorally, and in a manner particularly dangerous and injurious to public morals and interests."

d. "To cheat and defraud persons of property by means in themselves criminal, or by means amounting to a cheat."

e. To commit acts injurious to public health, public morals, and the due administration of the law.

(14) That at least some of the chartered schools herein referred to, never had any situs nor did they ever function except to solicit funds, while others issued diplomas to numerous individuals throughout the country after attending lectures on occasions for less than one week, which diploma certified that the holders thereof were proficient in anatomy, physiology, neurology, bacteriology, pathology, diagnosis, theory, and practice of electrotherapy, actinotherapy, chromotherapy, hydrotherapy, photo-therapy, orificial therapy, biochemistry, endocrinotherapy, massage, spinal adjustments, corrective manipulations, dietetics, first aid, x-ray, colonics, gynecology, obstetrics, minor surgery, foot correction, special techniques and methods.

(15) That the State Board of Naturopathic Examiners adopted and approved minutes of their meetings and acts which did not reflect, and, to a large extent, concealed the activities of said Board.

(16) That in one instance, the sum of $3,000.00 was collected by some of the defendants named in the indictments to secure a diploma and license for another of said defendants who had never attended the school by which the diploma was ostensibly issued.

(17) That very few, if any, of those individuals licensed by said Board to practice Naturopathy met the educational requirements set forth in the law.

(18) That Naturopathy, as a profession, is not recognized by law in more than 8 states of the United States and few of these states have gone so far as to set up a Board by which individuals are licensed as physicians, and the Tennessee Law, by all odds, is the broadest ever enacted in the Nation for the licensing and regulating of such profession and, where it is recognized, the practitioners thereof are

most generally only permitted to treat or administer by the use of physical therapy and a few simple herbs.

(19) That in Tennessee, many of the Naturopaths have established hospitals and clinics, and have equipped elaborate operating rooms and have, in reality, practiced medicine, including obstetrics and in some instances, surgery.

(20) That the majority of the Chiropractors in Tennessee have been licensed as Naturopaths by the State Naturopathic Board, based primarily upon their membership in the American Naturopathic Association of Tennessee, Inc., and without having attended Naturopathic school for 4 years as required by law.

(21) That the Chiropractors, thus licensed, have stocked drugs and dispensed them although, under the law, the chiropractic treatment is designated and defined as the system "to articulate and adjust the human spinal column and adjacent tissue thereto."

In view of the pending criminal prosecution as a result of this investigation, the shortage of paper and the time required to study and analyze the voluminous detailed information and evidence secured by the investigation, all of which is on file with the Chairman of the Committee, who is the State Commissioner of Health, the Committee was of the opinion that this report should be streamlined and simplified, but yet in such detail as to portray the situation in Tennessee presently existing with reference to the unauthorized practice of the healing arts in Tennessee as developed to date by the activities of said Committee.

Respectfully submitted:

R. H. Hutcheson, Chairman
George Sheats, Secretary
Carmack Cochran
J. E. Windrow
W. P. Taylor

The Journal of the South Carolina Medical Association

Forty Years Ago

MARCH 1915

Program for the annual meeting included Dr. K. M. Lynch, J. H. Gibbs, G. Mc. F. Mood, J. F. Townsend, R. M. Pollitzer, W. Atmar Smith. Dr. W. A. Boyd demonstrated the use of the Pulmotor in Columbia.

PRESIDENT'S NOTES

It is freely admitted by those who are in a position to know and generally accepted I believe by the laity, that the physicians of America today are the best qualified, best educated, the best trained and prepared of any in the history of the world. This applies to their scientific attainment. However, it appears from many contacts and from much reading that there is a serious question in the minds of the leaders, as well as in the minds of the laity, as to whether we have, in attaining our scientific knowledge, lost some of the humanitarian values which should be a part of our profession. It would appear to the writer that a notable contribution to the practice of medicine would be the inclusion of a course in the humanities, stressing altruism and selflessness, in each year of the medical curriculum, such a course to be supplemented by guest lecturers, not only from our profession but in others, as well as in the trades, who have been noted for their philanthropic and humanitarian efforts and attitudes.

Tom Gaines

Betsy, daughter of Dr. and Mrs. E. W. Allen, Swansea, has been chosen 1955 Easter Seal girl for South Carolina.

Betsy's dream of walking has come true during the past few weeks,—so great has been the progress of the Crippled Children Society of South Carolina, Inc., in helping crippled children. Betsy is crippled. She is cerebral palsied. She has worn long braces on her legs and a pair of specially made shoes. But Betsy is determined, and doctors and therapists at the Easter Seal Treatment Center are helping her along. Now she is in short leg braces.

Once a week now Betsy visits one of the Easter Seal Centers where she receives treatment from a trained physical therapist to strengthen her legs. An injury at birth made them crippled. She is also having occupational therapy.

In a true sense, Betsy is lucky. She started receiving her treatment when she was very tiny. That's why she can walk with her short leg braces today. Until recently Betsy visited the center twice a week. Now she goes only once. Treatment of the kind she receives is slow, but it must be steady. Betsy's mother has been trained by the therapist to give Betsy the exercises every day at home.

The Cerebral Palsy Program is just one of many services provided by the Crippled Children Society of South Carolina and its county affiliates through Easter Seal contributions. There, dreams of all kinds are being fulfilled for little boys and girls like Betsy in the form of occupational therapy, speech and hearing therapy and other services they may need.

During the past year the Society sponsored legislation to provide school systems with funds to set up regular classes for handicapped children. Now the Easter Seal Society is sponsoring with state colleges, training courses to bring to teachers methods in teaching handicapped children.

Wouldn't you like to help Betsy and many others like her? The Society aided 2,742 persons in South Carolina during the past year.

The South Carolina Medical Association appoints an Advisory Committee to the Society. Headed by Joseph I. Waring, M. D., Charleston, and William Weston, Jr., Columbia, the Advisory Committee is made up of 12 other doctors throughout all areas of the state. The president of the South Carolina Medical Association serves as a member ex-officio.

Dates for the 1955 Easter Seal Appeal are from March 10 through Easter Sunday, April 10.

THE SOUTH CAROLINA ACADEMY OF GENERAL PRACTICE

The South Carolina Academy of General Practice takes pride in presenting for consideration to the general practitioners of the state Association who have not yet joined The Academy and to all other members of the state Association the objects and purposes of the American Academy of General Practice. The following has been extracted verbatim from our Constitution and By-Laws:

To establish an organization of general practitioners of medicine and surgery to promote and maintain high standards of the general practice of medicine and surgery;

To encourage and assist young men and women in preparing, qualifying, and establishing themselves in general practice;

To preserve the right of the general practitioner to engage in medical and surgical procedures for which he is qualified by training and experience;

To assist in providing post-graduate study courses for general practitioners, and to encourage and assist practicing physicians and surgeons in participating in such training;

To promote the science and art of medicine and surgery and the betterment of public health, and to preserve the right of free choice of physician to patient.

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A forceful and effective method for dealing with criticism by the public of the medical profession is described in the February 12, 1955 issue of the Saturday Evening Post. The title of the article is "The Doctors Who Crack Down on Doctors".

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The following was mailed from American Academy of General Practice Headquarters to all members of The Academy. The author considered the subject matter of sufficient interest and importance to present it to all members of the state Association:

Excerpts from the Bulletin of the Joint Commission on Accreditation of Hospitals, 660 North Rush Street, Chicago II, Ill.,—October 1954, Bulletin No. 7. *"Who May do Surgery and a Suggested Classification*

"There is no specific answer to the above question. Good surgery cannot be measured blindly by years of residency, preceptorship or number of operations assisted at or performed. Certain individuals, no matter how long or where their training, will never become good surgeons.

"Formal resident training, College of Surgeons Fellowship or Board Certification are all excellent criteria and a physician desiring to do surgery should be encouraged to set them as his goals. Recognition of the worthwhileness of the above criteria cannot be over emphasized and they should stand high in all staff evaluations. The frank, brutal truth remains, however, that they sometimes, though not often, are only a piece of paper; that time can warp a man's judgment and poor health can slow the facilities of a surgeon's hands until he becomes a dangerous man in the operating room.

"Merit alone is the only criterion for judging physicians' surgical abilities. This judgment should be performed by those capable of judging other qualified surgeons, by those who are willing to accept the responsibility and to attest to the public and Community that 'in our judgment this man is capable of doing good surgery.'

"In our present medical set-up this means that a staff surgeon should be judged by those other members of the staff who have seen him work, use his judgment and exercise his ability. It becomes a local personal equation in every hospital. It is a terrific responsibility. It can never be decided on a friendship, personality or class basis.

"Several hospitals have used the classification of surgical privileges given below. The Joint Commission does not adopt this as a policy but it might serve as an example of how others meet the problem. Constant review through the active Tissue and Medical Records Committees or an Audit Committee makes the classification elastic yet restrictive. Recommendations from these committees to a responsible Executive Committee allow for promotions, demotions and suspension of privileges. A list of surgeons in each category should be in a confidential file of the operating room supervisor and a copy also in the files of the administrator of the hospital. Review of this file by the Surgical Committee or the Executive Committee should be as frequent as needed. It should be mandatory to review it and attest to it at least yearly.

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Example of Classification of Surgical Privileges

"Major Surgery Without Restrictions —or— Unlimited Surgical Privileges

"Permission to do any operative procedures, elective or emergency, commensurate with the field of surgery in which they are qualified by training and experience. Consultations should be utilized on all surgery involving unusual surgical risk.

"Major Surgery With Restrictions —or— Limited Surgical Privileges

"Permission to do limited general operative procedures, elective or emergency, not requiring anastomoses, excision, or resection of major gastrointestinal viscera, or radical resection of other organs generally associated with the field of surgery. Consultation is required on all surgery involving unusual surgical risk.

Probationary Major Surgery

"All appointees would be permitted to do elective surgery during regular boarding periods. Emergency surgery only permitted with active assistance and presence of a qualified staff surgeon. Probation is not relieved and the candidate assigned to one of the above categories until enough cases have been observed and reviewed by staff members to warrant removal of probation."

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"No matter what criteria are set up, the final determination in all cases should be made by the surgeon's colleagues on the medical staff based on performance, review of Records and Tissue Committee reports, etc."

CORRESPONDENCE

To: Dr. Joseph I. Waring, Editor:

The Class of 1935 of the Medical College, which, as you know, is the most prominent group ever to

graduate from that institution, is planning a twentieth reunion dinner party during the state convention here in Charleston in May. I would like to submit to you the following information in the hope that you can find a place for it.

This event will take place on Tuesday night, May 10th, following the dedication of the new Teaching Hospital. It will begin with cocktails at 6:30, to be followed by dinner at 8:00 p. m., in one of the dining rooms of the Francis Marion Hotel. Wives are invited and urged to attend. Dress is informal. Arrangements are being made by Dr. R. W. Hanckel, Dr. Augusta Willis, and myself, and members of the class who plan to attend are asked to notify one of these three in order that we may know how many to expect.

We are writing to the members of the class individually but will appreciate it very much if you can insert the above information in the Journal to help stimulate interest in the affair. With best regards and thanks indeed for your help,

Sincerely,
Henry C. Robertson, Jr., M. D.

February 2, 1955

Dear Sir:

Will you please help us find a good dentist for St. Matthews. Our dentist, Dr. G. V. Cannon, died a week ago, leaving a nice office and equipment. The Lions Club asked me, as one of a committee of two, to help replace Dr. Cannon. Our nearest dentist is in Orangeburg, 14 miles away.

Thanks very much in advance, and best wishes.

Robert D. Hicks, M. D.

NEWS

The Ware Shoals Medical Clinic opened officially January 1, 1955. The staff is composed of Dr. H. B. Morgan, Dr. W. J. Holloway, and Dr. F. C. McLane.

The Clinic was an addition to the older building, with 2250 feet of floor space added. The Clinic has been approved by the Hospital Division of the State Board of Health.

The space is divided into 5 beds, surgery, delivery room, treatment rooms, sterilizing room, and storage space.

Dr. Lucius M. Cline, Jr., has reopened an office at 14 Medical Court, Greenville, for the general practice of medicine. Dr. Cline returned from service in May, 1954, and has been limiting his work to anesthesia until the present.

The Barnwell county Medical Society elected Dr. Edwin R. Wallace, III, of Barnwell, president for the year 1955, replacing Dr. Wallis Cone of Williston. Dr: Herbert Gross was elected vice president and Dr. R. S. Piper was named to continue as secretary-treasurer.

The state needs a one-million-dollar dental college, President Kenneth Lynch of the State Medical College said recently.

He made his statement to the House Ways and Means Committee in presenting the Medical College's annual budget request.

Lynch said $81,000 would be needed to operate a dental school the first year.

The General Assembly two years ago authorized a dental school in connection with the Medical College at Charleston, but provided no money.

The Oconee and Pickens County Medical Societies, meeting at Clemson House, heard discussions of diagnosis and treatment of cancer. Approximately 35 attended.

Dr. Tom Valley, Pickens, and Dr. S. B. Moyle, Walhalla, presided. They are the respective group presidents.

Speakers were staff members of the Medical College of South Carolina—Dr. H. R. Pratt-Thomas professor of pathology and Dr. Henry Mayo, associate professor of surgery.

An 18-month search for Dr. Herbert G. Settle, 45, ended when the body of the Ft. Mill physician was removed from the wreckage of his plane in nearby Lake Moultrie on January 28.

Dr. Settle had been missing since August 4, 1953, when he left Charlotte in his five-place plane for Charleston to attend a medical meeting.

The Medical College trustees named for four-year terms are Dr. E. H. Barnwell of Wadmalaw Island, Dr. J. M. Pratt of York and Dr. A. F. Burnside of Columbia. They had no opposition.

Elizabeth W. Ayer, M. D. has announced the opening of her office for the practice of Psychiatry, Psychotherapy and Analysis at 20 Elliott Street, Charleston.

Dr. Otis M. Pickett has returned to Mount Pleasant, for the practice of general medicine. Dr. Pickett is returning to civilian practice after a tour of duty with the U. S. Navy.

Dr. Pickett was graduated from the College of Charleston and the Medical College of South Carolina. He began practicing medicine in 1946 with offices in Mount Pleasant and on Sullivan's Island.

In compliance with a resolution unanimously passed by the Anderson County Medical Society, letters inviting Negro physicians of the county to join the society have been prepared.

Membership in the society will give Negro physicians an opportunity to keep abreast of scientific and technical developments in the field of medicine, Dr. Henry Jordan, president of the Society points out.

Dr. W. M. Bennett was elected as chief of staff of the medical staff of the Colleton County Hospital at the December meeting of this staff. Other officers were elected to serve during 1955 at this meeting.

Dr. G. C. Brown was elected as secretary-treasurer and as chairman of the credentials committee, a committee composed of Dr. Brown, Dr. W. P. McDaniel and Dr. C. B. Woods.

A $20,000 eye clinic will be erected in Columbia, according to a city building permit issued today.

The clinic, owned by Dr. J. B. Workman, will be built at 1625 Brabham Avenue on the corner of Haskell Street off Forest Drive.

Dr. Edward L. Proctor has been elected chief of staff of Conway Hospital for 1955, succeeding Dr. R. C. Smith. Dr. R. L. Jackson has been elected vice-chief, succeeding Doctor Proctor. Both of the new officers are diplomates of the American Board of Surgery. Dr. R. L. Ramseur has been elected secretary and treasurer, succeeding Dr. Wayne Reeser.

Conway Hospital has 16 doctors on its active staff and six doctors on its courtesy staff. The 94-bed institution discharged over 6,000 patients in 1954, including over 1,000 new born babies.

Dr. Emory Langsdale has begun the general practice of medicine at North Charleston, combining this practice with part time medical services with the government.

The South Carolina State Hospital has two new physicians.

Dr. Joseph A. Tobin has reported as an assistant physician and was assigned to the Negro men's service, State Park Division.

Dr. Mary Tribble Tobin (Mrs. Joseph A. Tobin) has assumed her duties as an assistant physician on the white women's service, Columbia division.

A native of Camden, Dr. Tobin was graduated from the Medical College of South Carolina, Charleston, in 1949. After serving as an intern and later as chief resident in the Greenville General Hospital, he was an assistant resident in Pathology, Medical College of Virginia Hospital, Richmond. He was associated with Dr. David Adcock in Columbia as an assistant in general practice and surgery; then was engaged in general private practice in Denmark. From November 1952 to November 1954 Dr. Tobin was in the United States Army, being stationed at the Percy Jones Army Hospital, Battle Creek, Mich., and prior to coming to the S. C. State Hospital was on duty at the United States Army Hospital, Ft. Hood, Texas.

Dr. Tobin, originally from Due West, was graduated from the Medical College of South Carolina, Charleston, in the class of 1949. Her internship was in the Greenville General Hospital where she was later an assistant resident on the medical staff. She was chief resident in the alleregy department of the Medical College of Virginia Hospital, and then was engaged in private practice in Denmark until her husband entered the armed forces.

The Medical College of South Carolina will ask an appropriation of $3,443,990 for the 1955-56 fiscal year from the South Carolina General Assembly.

Dr. Kenneth M. Lynch, president, said the budget is principally for new activities, including the new teaching hospital and a proposed school of dentistry.

Dr. Lynch made the announcement with a statement, addressed "to all concerned with Medical College affairs," in which he said, "As the great cause to which we of the Medical College of South Carolina are dedicated is advanced to a phase of large operational expansion, it becomes our duty to present to the 1955 General Assembly appropriate requests for financial support."

Dr. John C. Taylor, Jr., received the coveted Jaycee distinguished service award as Honea Path's outstanding "Young Man of the Year."

Dr. W. P. McDaniel was recently elected as president of the Colleton County Medical Association and Dr. C. B. Woods as vice-president.

Dr. and Mrs. J. D. Thomas and small son have arrived from Germany to make their home in Denmark again. Dr. Thomas served several years with the armed forces overseas. He will resume his interrupted practice in Denmark.

The Greenville County Medical Society re-endorsed its previous resolution favoring fluorination of water supplies and launched a campaign to acquaint the public with fluorination and its effects.

Dr. George H. L. Dillard is a new physician in Greenwood. He is associated as a partner with Dr. R. M. Christian. Both are specialists in internal medicine. Their offices are in the Hodges Building.

Dr. Dillard is a native of Bluefield, West, Va. He is a graduate of the United States Military Academy at West Point and the Medical College of Virginia at Richmond. He served his interneship in Cleveland, Ohio, and residency in Richmond.

His Army service followed at Hot Springs, Ark., and the Philippine Islands. Since then, Dr. Dillard has done additional study, some teaching and research at Richmond, the University of Virginia and the National Institute of Health at Bethesda, Md. For the past two years he has been on the faculty of the Vanderbilt University school of medicine in Nashville, Tenn.

New officers of the Anderson County Medical Society assumed their new duties at the monthly meeting of the group at the Country Club. Presiding was

Dr. Henry Jordan, who succeeded Dr. W. C. Bolt as president. Other officers are Dr. Henry Hearne, treasurer; Dr. Richard Edmundson, vice-president; and Dr. James Halford, secretary.

Dr. Richard Wayburn and Dr. Donald H. Harwood have announced the organization of Anesthesiologists of Columbia, 1718 Hampton Street, Columbia, South Carolina.

Claude-Starr Wright, M. D., former Associate Professor of Medicine at Ohio State University Medical Center, has been appointed Associate Professor of Medicine at the Medical College of Georgia. Dr. Wright was born in Laurens, S. C., received his B.S. degree from the University of South Carolina in 1939 and his M.D. degree from the Medical College of South Carolina in 1942 when he graduated with honors. His internship was served at the Hospital of Richland County, Columbia, S. C., later he was Assistant Resident in Internal Medicine at Barnes Hospital, Washington University, St. Louis, Mo., and since 1944 he had been attached to the Department of Medicine at Ohio State University.

The Coastal Medical Society held its regular meeting February 17, at Walterboro, S. C. Dr. John Arthur Siegling spoke on "Acute Calcific Tendonitis."

The January meeting of the Coastal Medical Society was held at Walterboro. Dr. Louie Jenkins and Dr. Arthur Williams presented the scientific program entitled "Medical Treatment of Surgical Complications."

Dr. Harry Boatwright has opened his office at the new Barnwell Street Medical Building for the practice of dermatology. He comes from Camp Lejeune, North Carolina, where he has been Chief of the "Skin Service" for the past 18 months.

Dr. Boatwright is from Seneca in Oconee County. Following graduation from Clemson College, Class of 1940, he attended the Medical College of South Carolina and received his internship at the University Hospitals in Oklahoma City After a tour of duty with the navy, where he first became interested in skin diseases, he proceeded to general practice in Kingsport, Tenn.

In 1950 he began his residency training in dermatology at the University of Virginia. Upon the completion of his post-graduate studies he was again called to active duty as dermatologist at the United States Naval Hospital at Camp Lejeune.

In the summer of 1954, Dr. Boatwright was awarded the designation as diplomate of the American Board of Dermatology.

Dr. Murray T. Jackson, Jr., a native of Greenville, S. C. and recent graduate of the radiological department of Duke University, has joined the staff of the Radiological Department of Conway Hospital, which is headed by Dr. Ray Russell. In addition to his training at Duke University Hospital, Dr. Jackson has taken postgraduate work at the Radioisotopes Laboratory in Oak Ridge, Tenn.

Mrs. Jackson, who is a pediatrician, will join Dr. Jackson in Conway as soon as their new home in Snow Hill is completed.

At a recent meeting, the South Carolina Board ruled that Diplomates of the National Board are eligible for licensure in South Carolina in an individual basis.

Dr. J. N. Land, 79-year-old physician and surgeon, is closing up his office in the Bleckley Building and getting ready for a well-deserved retirement after 52 years of practice in Anderson County.

During those 52 years, which began when he hung out his shingle at Starr in 1903, he has delivered more than 3,000 babies, served his fellowman in many ways, and witnessed great strides in the science of medicine.

BOOK REVIEWS

THE BANE OF DRUG ADDICTION—O. R. Yost, M. D., New York—The MacMillan Company—1954. 155 pp. Price $4.00.

This brief survey of the addiction problem does not advance any basically new ideas and its author makes no claims to any distinctive pioneering achievement. Instead, this small volume offers a very readable synthesis of recent scientific publications, selected case histories and pertinent comments based on wide experience with these problems. Authorities quoted include particularly the specialists at the U. S. P. H. S. Hospital at Lexington, Kentucky. The viewpoint throughout is not only eminently sound but has all the fresh interest of strictly current vernacular and background. Insight and sympathy are advocated for the helpless addict but capital punishment is recommended for the non-addicted peddler. This book is directed particularly to the general practitioner, professional nurse, social or welfare worker, judge, lawyer, law-enforcement official or any interested member of the enlightened public. For them it provides an unusually reliable and interesting background of information on this subject.

R. P. Walton M. D.

"HANDBOOK OF MEDICAL TREATMENT;" Fourth Edition, Lang Medical Publications, Los Altos, Calif., 1954.

The authors and editors of this pocket-sized *Handbook of Medical Treatment* have again produced in the fourth edition a small pocket-sized volume which contains a wealth of information giving briefly and succinctly effective therapeutic procedures for the common and frequently encountered disease states

pertaining to all age groups. Frequently used and seldom used diagnostic procedures may be rapidly referred to in this volume. An excellent section on fluid and electrolyte therapy is included in the handbook. Symptomatic therapy is approached in a rational and cautious manner and repeatedly in various sections of the book attention is directed toward the importance of seeking to establish a correct diagnosis. The volume is well indexed and contains a number of tables which present concisely a wealth of information. A fairly complete section on poisoning is also included. This small volume is one which can be recommended to members of the house staff of a hospital and certainly should prove to be of much value in the handbag of a practicing physician as a source of ready and quick reference—the type, format and composition of the book indicate a great deal of thought and care have been expended by the editors and authors in producing so thorough and complete a reference handbook.

Vince Moseley, M. D.

ANNOUNCEMENTS

The 1955 meeting of the American Goiter Association will be held in the Skirvin Hotel, Oklahoma City, Oklahoma, April 28, 29 and 30, 1955.

AMA ANNOUNCES '55 RADIO HEALTH SHOWS

Doctors of America again will plug better health on the air waves as the AMA's Bureau of Health Education announces its 1955 radio transcription plans. Three new program series will be developed for use of state and county medical societies over local radio stations.

With the cooperation of the Rocky Mountain Radio Council, AMA will make available about April 15 a special series of 13 medical "whodunits" entitled, "Dr. Tim, Detective," This series tells the story of two youngsters who help the doctor solve interesting and mysterious medical cases. For example, one involves a criminal who betrays himself because of what he does not know about diabetes.

Through the generosity of the Woman's Auxiliary of the United States and Canadian Sections of the International College of Surgeons, the College is offering a scholarship to a young Canadian or American surgeon who wishes to study abroad. This scholarship will be in the amount of $3,000.00 to pay for transportation and living expenses for a period of twelve months. This is not a travelling fellowship. The doctor selected will be expected to spend at least ten months of the year as a resident or fellow in a teaching center in one of the countries of Europe or South America.

The Scholarship Committee
International College of Surgeons
1516 Lake Shore Drive
Chicago 10, Illinois

SOUTHEASTERN ALLERGY ASSOCIATION IN ORLANDO, FLORIDA

Orange Court Hotel, March 25-26, 1955

THEME

"Allergy and Its Relation to Industrial Medicine"

ATTENTION PHYSICIAN PILOTS

Some time ago several physicians simultaneously conceived the idea of forming a national society of flying physicians. Initial action was started by Mr. Mark E. DeGroff of Tulsa, Oklahoma, medical equipment manufacturer, who offered to act as a central office until preliminary arrangements could be made. A notice in the A.O.P.A. Newsletter brought forth over one hundred interested inquiries. About 28 physician pilots attended the American College of Surgeons Meeting in Atlantic City and 24 attended the AMA session in Miami. It was felt that enough interest was shown to warrant an attempt to organize.

It was decided that the purposes of this society should be scientific, educational, and social. Physicians have a considerable influence which should be passed on to everyone to promote greater aviation safety. Further, physicians who have this interest could learn much about the technical aspects of flying from association with each other.

The immediate objectives are: compilation of a complete list of physician pilots; appointment of temporary local area chairmen; the collection of ideas and suggestions; and encourage physicians to fly in to the AMA Meeting at Atlantic City, June 6-10, 1955.

A scientific and social program can be arranged at Atlantic City if enough interest is shown.

Will physician pilots who are interested please send their names, plane flown and landing field to the local chairman of their area, or, if not known, to H. D. Vickers, M. D., 25 Jackson Street, Little Falls, New York, temporary chairman.

PRELIMINARY PROGRAM

SIXTH ANNUAL MEETING
SOUTH CAROLINA HEART ASSOCIATION
AN AFFILIATE
OF THE
AMERICAN HEART ASSOCIATION
With The Co-Sponsorship Of
The Charleston County Medical Society
BARUCH AUDITORIUM
Medical College of South Carolina
Charleston, South Carolina
Monday and Tuesday,
April 11-12, 1955
PROGRAM
Monday, April 11, 1955

Baruch Auditorium

5:00 P. M.—Annual business meeting of the voting members of the South Carolina Heart Association. Election of members of the Board of Directors whose terms have expired.

Francis Marion Hotel

6:30 P. M.—Meeting of the Board of Directors of the South Carolina Heart Association.

Tuesday, April 12, 1955

Baruch Auditorium

Scientific Session

9:00 A. M.—Meeting called to order: Dr. William Schulze, Greenville, S. C., President, S. C. Heart Association.
Messages of Welcome: Dr. Kenneth M. Lynch, President, Medical College of South Carolina. Dr. Frederick E. Kredel, President, Charleston County Medical Society.

9:20 A. M.—"*Experiences With Cardiovascular Surgery.*" Dr. Edward F. Parker, Associate Professor of Surgery, Medical College of South Carolina.

9:40 A. M.—"*Experiences With Vascular Surgery.*" Dr. Manly Stallworth, Instructor in Surgery, Medical College of South Carolina.

10:00 A. M.—"*Paroxysmal Auricular Tachycardia With Block: Clinical and Electrocardiographic Considerations.*" Dr. Harold D. Levine, Clinical Associate in Medicine, Harvard Medical School; Associate in Medicine, Peter Bent Brigham Hospital; Cardiac Consultant, U. S. Public Health Service; Cardiac Consultant, Veterans Administration.

11:00 A. M.—"*The Prophylactic Use of Quinidine Following Myocardial Infarction.*" Dr. John A. Boone, Professor of Medicine, Medical College of South Carolina.

11:20 A. M.—"*The Venous Hum in Clinical Auscultation of The Heart.*" Dr. Dale Groom, Assistant Professor of Medicine, Medical College of South Carilina.

11:40 A. M.—"*The Ballistocardiograph in Clinical Research.*" Dr. Peter C. Gazes, Associate in Medicine, Medical College of South Carolina.

12:00 Noon—"*Current Problems in the Management of Renal Failure.*" Dr. John P. Merrill, Associate in Medicine, Harvard Medical School; Established Investigator, American Heart Association.

1:00 P. M. to 2:30 P. M.—Luncheon Recess

2:30 P. M.—Meeting called to order: Dr. Frederick E. Kredel, President, Charleston County Medical Society.
"*Recent Developments in Cardiovascular Surgery.*" Dr. William H. Muller, Jr., Professor and Chairman, Department of Surgery, University of Virginia, School of Medicine.

3:30 P. M.—"*The Present Status of Cardiac Surgery.*" Dr. Thomas J. Dry, Head of a section in Medicine, Mayo Clinic; Professor of Medicine, Mayo Foundation Graduate School, University of Minnesota.

4:30 P. M.—Round Table Discussion of Cardiac, Vascular and Renal Disease. Moderator, Dr. A. Izard Josey, Columbia. Drs. Levine, Merrill, Muller, Dry.

Evening

Baruch Auditorium

8:00 P. M.—Joint meeting with the Charleston County Medical Society. "*The Significance of Retinal Lesions in the Classification of Hypertensive Disease.*" Dr. Henry P. Wagener, Senior Consultant in Ophthalmology, Mayo Clinic; Professor of Ophthalmology, Mayo Foundation, University of Minnesota.

DEATHS

DR. G. W. I. LOADHOLT

Dr. G. W. I. Loadholt, 83, who had practiced medicine in and around the Jenny Community for 55 years, died at his home on February 12 after a prolonged illness.

Dr. Loadholt received his academic education at Brunson Military Academy and Newberry College and was graduated with the degree of Doctor of Medicine with the class of 1898 from the Medical College of South Carolina.

DR. JESSE O. WILLSON

Dr. Jesse O. Willson of Spartanburg died January 16th after a lingering illness.

For 42 years he was a physician and surgeon in Spartanburg County. He was a member of the South Carolina and American Medical Associations, and at

one time served as chairman of Spartanburg General Hospital.

Dr. Willson was a graduate of the College of Charleston and the Medical College of South Carolina at Charleston.

DR. ROBERT M. NEWSOM

After several weeks of declining health, Dr. Robert M. Newsom died February 4 at Mercy Hospital in Charlotte.

He attended the public schools and entered the South Carolina Medical College in 1907, from which he was graduated in May, 1911. He did post-graduate work at Johns Hopkins in Baltimore and attended the Mayo Clinic and the Poly Clinic at Highland Hospital, New York City.

He began the practice of medicine at Ruby in Chesterfield County in July 1911, and since that time had continuously practiced medicine in Chesterfield County. Early in his practice, Dr. Newsom became affiliated with the Chesterfield County Medical Assn., the Pee Dee Medical Assn., the State Medical Assn. and the American Medical Assn. He became a member of the Ruby School District board of trustees and served continuously as a trustee until the Ruby School District was incorporated into School District No. 1 of Chesterfield County.

BLUE CROSS . . . BLUE SHIELD

The difficulties of Blue Cross-Blue Shield are inherent in a number of fundamental conflicts of aims and conditions. Resolution of those difficulties can come about only through compromise.

The basic philosophy of the Blue Cross-Blue Shield movement is to offer assurance to its members that *all* of the costs of illness will be paid in return for a prepaid membership fee that is within the reach of low income people. That philosophy deliberately disregards the possible but unusual great cost of individual illness and attempts to be influenced by the individual's limitations of ability to pay for such assurance.

The first difficulty has come about because of the ever increasing costs of illness. It costs so much more to be sick than it did twenty years ago. A part of this increase may be said to be in basic costs: food, medicines, salaries of hospital personnel, costs of hospital construction, costs of equipment and size of doctor's fees. Little can be done about these individual costs. But the overall costs can be reduced materially. More efficient hospital management, better planning, avoidance of waste, full payment of the costs of the care of the indigent through taxation rather than by surcharging the paying patient, intelligent scientific care and restraint in ordering drugs and ancillary services, provision of quarters and facilities for convalescent and domiciliary care for those no longer requiring treatment in a hospital equipped to render full care to the acutely ill. To lessen this difficulty would require the constant efforts of the public, the hospital management and the doctors. There is a wide field of opportunity in that area.

The next difficulty arises from the fact that there has been a tremendous change in the attitude of the public and of the medical profession toward the problems of health. For many years, the profession has advocated prophylactic medicine and regular health examinations. That advocacy has gained momentum. The widespread campaign for the early detection of cancer, the advocacy of frequent chest examinations to detect lung disease, routine chest, and more recently K. U. B., films for all hospital admissions, more frequent and more complete x-ray and laboratory examinations to evaluate surgical risks, hospitalization of pregnancy complications, laboratory controls of so many medical treatment regimes, industrial pre-employment examinations, rehabilitation procedures before military service are a few costly health measures that both the doctors and the laity expect and employ, and which have come into vogue since the Blue Cross concept of prepaid insurance for hospital care was inaugurated.

With these new concepts and demands, Blue Cross-Blue Shield have not kept pace. Although the ideal of coverage of the costs of acute illness in hospitals has been broadened, along with a moderate increase in membership fees, both Blue Cross and Blue Shield have been forced to hedge, to limit, to restrict in order to survive. With these restrictions and increased fees has come a decrease in popularity. The insurance principle that one can insure against possible loss only and not against certain calamity, even though it may entail loss, has been forcibly brought to mind. Principles of underwriting to guard against admitting members who are surely or almost surely poor insurance risks have been invalid, even though their enforcement excluded from Blue Cross-Blue Shield membership many who needed assistance most.

In its earlier days, Blue Cross-Blue Shield was made available only to groups of workers. By accepting worker-groups, the risk of enrolling a predominant number of members who already were in need of hospital treatment was avoided. However, lulled by a favorable insurance experience, laxity in keeping the groups intact crept in, so that many groups fell below the required percentage of members. The well got out and the sick stayed in. Along with that, there was a

desire for and a demand by individuals, not members of an employed group, for enrollment. Individual subscribers came to be accepted, cautiously at first, not so cautiously later. The experience with these has been not too unfavorable, but they require careful policing at all times.

There is still another difficulty in the practical application of the Blue Cross-Blue Shield philosophy which has become important since the end of World War II. It resolves itself into two related factors. Family doctors are more skillful and more ambitious than they were formerly. They are able not only to undertake general diagnostic surveys but they more frequently do so. These surveys are often undertaken as a part of or a sequel to the treatment of minor recognized illness or in an attempt to explain an unpleasant symptom. The increasing prevalence of community hospitals, equipped with x-ray, EKG, BMR, laboratory and other facilities gives these ambitious men an opportunity to test their skills. The time was when internists, equipped with similar facilities, were called diagnosticians, and to them the family doctors referred cases which they now undertake to handle themselves. Unfortunately, many of these men have not learned the value of a carefully taken and recorded history and a carefully made physical examination. Many of them have not fully evolved from the old style family doctor into a careful and wise internist. Necessarily, many of the examinations ordered by them which should be auxiliary to careful personal study of the case are uncalled for and worthless—but they cost the patient money and lots of it. The number of negative x-ray examinations is amazing and the number of these which are repeated one or more times within a relatively short time is considerable.

The final difficulty which I shall mention, which greatly influenced a failure of fuller fruition of the basic philosophy of Blue Cross-Blue Shield arises from selfishness. A man perfectly honest in his dealings with other individuals seems to think it not dishonest to obtain from a corporation goods or services to which he is not entitled. Many intelligent people believe that if they invest money in health insurance, they should recover at least an equal value in service. Otherwise honest people will subscribe to insurance to cover the expenses of an operation which has already been planned. Honest patients will falsify a history or ask doctors to do so in order to escape the restrictions of waiting periods. Honest and upright doctors are strongly tempted to shade the truth or to give a patient the benefit of more than the doubt in order that they may recover on their insurance. Doctors, perfectly reliable in other respects, will upgrade an operation, so that it will warrant a larger fee. Hospitals which are impersonal, but which are operated by persons, have been known to charge for services which were not received by the patient and to charge a second time for services which had to be repeated because of their inferior quality.

Although the things discussed were treated of in connection with the difficulties with which Blue Cross-Blue Shield are confronted, they apply equally as causes for the high cost of medical care. These difficulties probably will not make it necessary for Blue Cross-Blue Shield to reduce its services to the original concept of coverage limited to the costs of the basic features of hospital care—bed, board, operating and delivery rooms and general nursing care—in cases of acute illness only, and make it limit membership again to groups of workers, but they are bound to cause in one way or another a retraction and constriction of the services covered in order to survive.

J. Decherd Guess

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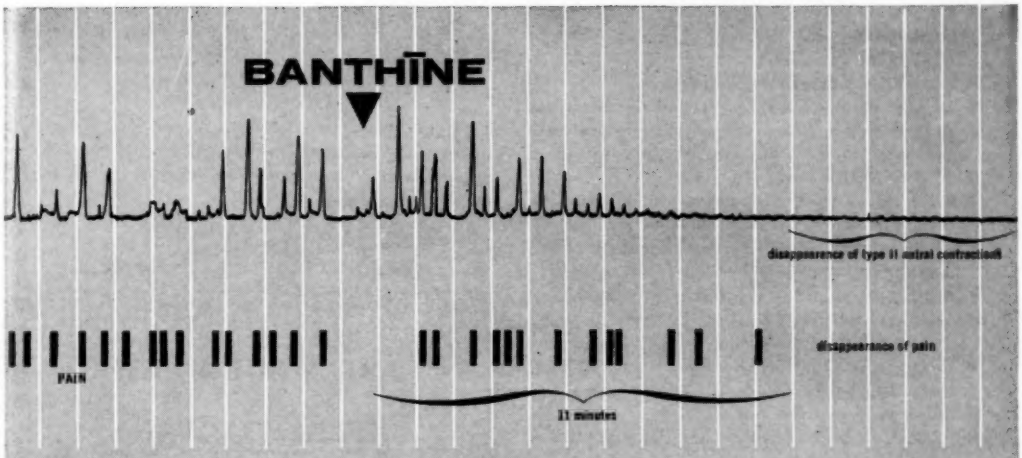

Effect of 100 mg. of Banthīne administered orally on antral gastric motility and duodenal ulcer pain.

Hightower, N. C., Jr., and Gambill, E. E.: Gastroenterology 23:244 (Feb.) 1953.

Hypermotility and Hyperacidity

A recent evaluation of anticholinergic therapy in peptic ulcer emphasizes the fact that now the profession has at its disposal agents that are "effective in reducing both secretory and motor activity of the stomach."

The effect on motor activity is generally more pronounced and less variable than on secretion; pain relief is usually prompt; a high degree of effectiveness is noted in ambulatory ulcer patients.

Ruffin, J. M.; Texter, E. C., Jr.; Carter, D. D., and Baylin, G. J.: J.A.M.A. 153:1159 (Nov. 28) 1953.

With its proved anticholinergic effectiveness, Banthine has been found extremely useful in the medical management of active peptic ulcer, whether duodenal, gastric or marginal.

The immediate increase in subjective well-being and the simplicity of the Banthine regimen assures patient cooperation. The recommended initial therapeutic dose is 50 or 100 mg. (one or two tablets) every six hours around the clock, with subsequent individual adjustment. The usual measures of diet regulation, rest and relaxation should be followed.

Banthine is effective in other conditions caused by excess parasympathetic stimulation. These include hypertrophic gastritis, acute and chronic pancreatitis, biliary dyskinesia and hyperhidrosis. Banthine is contraindicated in the presence of glaucoma and should be used with caution in the presence of severe cardiac disease or prostatic hypertrophy.

Banthine bromide (brand of methantheline bromide) is supplied in scored tablets of 50 mg. and in ampuls of 50 mg. It is accepted by the Council on Pharmacy and Chemistry of the American Medical Association. G. D. Searle & Co., Research in the Service of Medicine.

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